DR. AKHILESH DAS GUPTA
INSTITUTE OF PROFESSIONAL STUDIES
DEPARTMENT OF ARTIFICIAL INTELLIGENCE & DATA SCIENCE

INTELLIGENCE ARTIFICIELLE

2024-2025

DATAZOIC

Pioneering Tomorrow's Intelligence

*V*ISION OF GENESIS AND FOUNDER

Late Babu Banarasi Das Ji
(1912 – 1985)
Genesis
Ex Chief Minister
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To provide an open opportunity to the young generation for evolving their core competencies and to build their career as world class professionals with broad based foundation, in-depth knowledge & versatile personality to meet the challenges of Global Economy.

Dr. Akhilesh Das Gupta
Founder
MBA, LLB, Ph.D.
Ex-MP (Rajya Sabha)

We not only make technocrats at BBD, we churn out citizens of the world, perfect in all respect, be it leadership, competence, confidence, communication, moral or knowledge.

TO OUR REVERED AND HON'BLE FOUNDER CHAIRPERSON SIR
DR. AKHILESH DAS GUPTA

प्रेरकः सूचकश्चैव वाचको
दर्शकस्तथा ।

There is no greater tribute to a guru than to maintain the high standards he lived by; Dr. Akhilesh Das Gupta's legacy is one such that will live on through his eminent students and through the beauty of his charitable work; There was an intensity that he brought to every movement and thought he expressed; An inspiring soul, a versatile genius, a noble teacher whose ideas will live forever with his charm.

शिक्षको बोधकश्चैव षडेते गुरवः स्मृताः ॥

MESSAGE FROM THE HON'BLE CHAIRPERSON
MRS. ALKA DAS GUPTA

Innovation is driven by passionate individuals who bring meaningful transformation to the world around them. In today's rapidly evolving global landscape, success is defined by our ability to adapt, lead, and innovate—especially in transformative fields like Artificial Intelligence.

The Department of Artificial Intelligence and Data Science at ADGIPS exemplifies this spirit by equipping students with the vision, skills, and confidence to meet the challenges of tomorrow. With a strong focus on innovation and conscious learning, the department is shaping individuals who are both competent and compassionate.

Our vibrant campus, supported by strong academic and sports infrastructure, is a reflection of our commitment to holistic development. We believe in nurturing well-rounded individuals who can thrive in a technology-driven world and contribute meaningfully to society.

In the digital age, knowledge of emerging technologies is essential—not just for engineers and scientists, but for professionals and leaders across all domains. At ADGIPS, we embrace this transformation and strive to deliver education aligned with global standards.

I am confident that ***Intelligence Artificielle 2025*** will continue to inspire innovation and intellectual excellence. My heartfelt congratulations to the editorial team for their continued efforts and success.

Warm regards,

Mrs. Alka Das Gupta

Hon'ble Chairperson

Babu Banarasi Das Group of Educational Institutions

MESSAGE FROM THE HON'BLE PRESIDENT
SHRI VIRAJ SAGAR DAS

II am pleased to see the Department of Artificial Intelligence and Data Science at Dr. Akhilesh Das Gupta Institute of Professional Studies continuing to nurture innovation, creativity, and excellence. The department's commitment to encouraging students to engage in competitions, projects, and emerging technological platforms is truly commendable.

Intelligence Artificielle 2025 is a reflection of this vibrant spirit. The magazine presents a rich and diverse collection of articles, offering insights into the latest advancements, student achievements, and departmental initiatives. It is encouraging to see how thoughtfully the content has been curated, capturing both academic depth and creative expression.

Publications like this not only showcase the capabilities of our students and faculty but also promote a culture of continuous learning and collaboration. The initiative reflects the department's dedication to shaping future-ready professionals who are well-equipped to face the evolving challenges of the modern world.

I extend my heartfelt congratulations to the department and the editorial team for their efforts in bringing out this meaningful edition. May the magazine continue to inspire excellence and serve as a platform for innovation and expression.

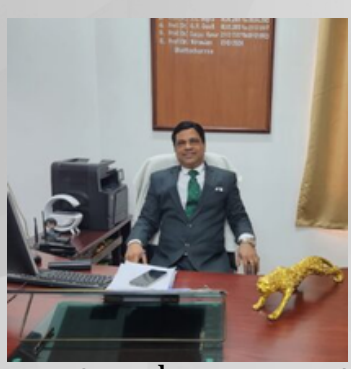
Warm regards,

Shri Viraj Sagar Das

Hon'ble President

Babu Banarasi Das Group of Educational Institutions

MESSAGE FROM THE DESK OF DIRECTOR



Dear Readers,

It gives me immense pleasure to share my thoughts through Intelligence Artificielle 2024, the annual magazine of the Department of Artificial Intelligence and Data Science. This magazine reflects the vibrant academic culture, achievements, and creative pursuits of our students and faculty.

Today, ADGIPS stands proudly among the top institutions within the GGSIPU system. Our students consistently excel in academics, placements, and higher studies. Many of our graduates have secured positions in leading national and international organizations, while others are pursuing advanced education in reputed institutions abroad. The past few years have been a journey of steady growth and academic excellence.

In line with the dynamic global environment, ADGIPS is committed to delivering education that goes beyond technical training. We aim to instill confidence, character, and leadership qualities in our students, preparing them to thrive in diverse professional settings.

As part of the Babu Banarasi Das International Group of Educational Institutions, ADGIPS embraces modern infrastructure, innovative teaching methodologies, and quality assurance practices. We are continually adapting to the technological and economic changes shaping the world, ensuring that our students remain future-ready.

I commend the Department of Artificial Intelligence and Data Science for nurturing talent and creating opportunities for holistic development. I also congratulate the editorial team for bringing out this thoughtful and engaging publication.

May this magazine continue to inspire, inform, and ignite innovation in every reader.

Warm regards,

Prof. (Dr.) Niranjan Bhattacharyya

Director

MESSAGE FROM THE HEAD OF DEPARTMENT
DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Dear Readers,

It is with great pride and pleasure that I present to you Intelligence Artificielle -2025, the annual magazine of the Department of Artificial Intelligence and Data Science. This publication serves as a reflection of the vibrant academic culture, innovative spirit, and dynamic talent nurtured within our department.

In today's fast-evolving technological landscape, Artificial Intelligence and Data Science are transforming industries and redefining problem-solving. Our department is committed to equipping students with not just theoretical knowledge, but also practical skills and ethical grounding to become responsible and impactful professionals.

The magazine highlights our students' academic achievements, technical explorations, creative expressions, and the continuous efforts of our dedicated faculty members. It also serves as a platform for sharing insights, experiences, and ideas that push the boundaries of learning.

I commend the editorial team and all contributors for their hard work and creativity in bringing this edition to life. I encourage readers to actively engage with the content, offer feedback, and continue contributing to this intellectual journey.

Let this magazine be a celebration of our progress and a motivation to strive for even greater excellence.

Warm regards,

Prof.(Dr.) Archana Kumar

Head of Department

DEPARTMENT OF
ARTIFICIAL INTELLIGENCE & DATA SCIENCE

VISION

To enable the modern society with skilled engineers in the field of AI and Data Science, thereby bringing transparency and effectiveness in decision making for the overall welfare of mankind.

MISSION

M1. To produce competent AI and Data Science professionals to serve the needs of the society.

M2. To prepare industry ready engineers, trained in modern tools and techniques of AI and Data Science.

M3. To foster innovative research work in the area of AI and Data Science and allied areas, leading to quality decision making.

PEO

PEO1: Graduates shall thrive in the field of Artificial Intelligence & Data Science by utilizing their gained knowledge and abilities to build practical and viable engineering solutions.

PEO 2:Graduates shall be adaptable to new technologies and advances in order to achieve professional excellence.

PEO 3: Graduates shall be able to effectively manage resources and pursue their careers with integrity, ethics, and social responsibility.

“Pioneering Ideas:
Research and Development at the Frontier of AI”

“Research is seeing what everybody else has seen and thinking what nobody else has thought.”— Albert Szent-Györgyi

Showcasing Excellence in Academics, Innovation, and Holistic Development

The Department of Artificial Intelligence and Data Science continues to uphold a strong culture of research and inquiry, reinforcing its role as a hub of innovation and academic excellence. Our commitment to pushing the frontiers of technology and knowledge has translated into impactful research contributions across various domains of AI, machine learning, data analytics, and interdisciplinary applications.

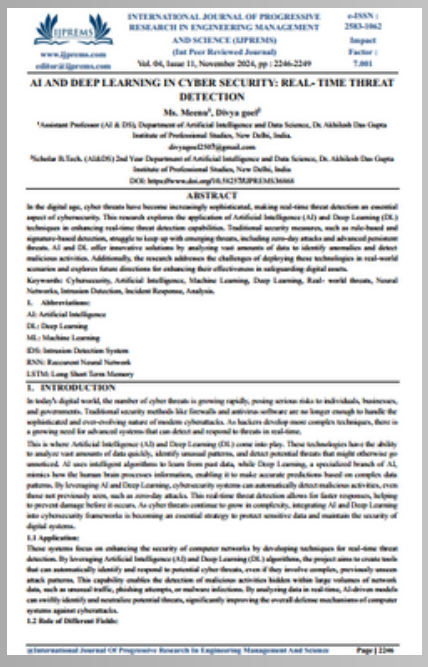
During the academic session 2024–25, the department achieved a significant milestone with more than 50 research papers published in reputed international journals and conferences. These publications reflect the dedication of our students and faculty to exploring emerging technologies, solving real-world problems, and contributing to the global research community.

Our research covers a broad spectrum—from deep learning, natural language processing, computer vision, and big data, to AI applications in healthcare, education, cybersecurity, and sustainability. These contributions not only enhance academic rigor but also open avenues for industry collaboration and societal impact.

We take immense pride in the scholarly accomplishments of our team and remain committed to fostering an environment that encourages critical thinking, innovation, and excellence in research.

This section presents a glimpse into the research achievements of the department and celebrates the spirit of inquiry that drives our academic mission forward.

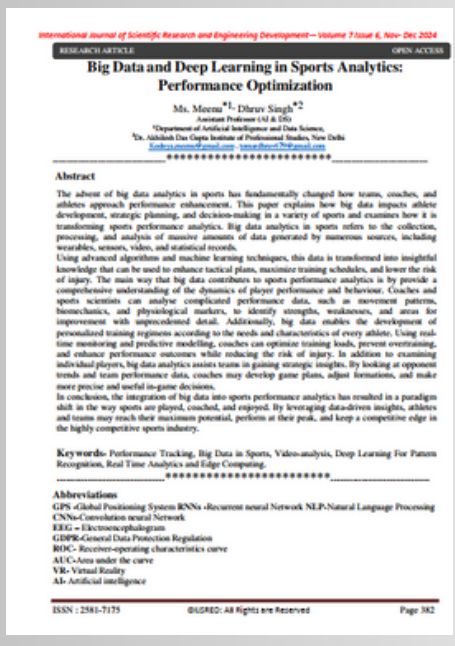
Highlights of Student-led Research and Development Initiatives


INTERNATIONAL JOURNAL OF PROGRESSIVE RESEARCH IN ENGINEERING MANAGEMENT AND SCIENCE (IJPREMS)

AI AND DEEP LEARNING IN CYBER SECURITY: REAL- TIME THREAT DETECTION

Ms. Meenu[1], Divya goel[2]

ABSTRACT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Big Data and Deep Learning in Sports Analytics: Performance Optimization

Ms. Meenu*1, Dhruv Singh*2

Abstract

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AI-enabled predictive analytics for smart cities

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Abstract

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Certificate of Publication

This is to Certify that Paper Entitled

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ACCEPTANCE CERTIFICATE

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH IN ENGINEERING & MANAGEMENT (IJSREM)

Loan Default Prediction Using ML- Classification Models

VOLUME 09 ISSUE 05 MAY - 2025

ACCEPTANCE CERTIFICATE

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH IN ENGINEERING & MANAGEMENT (IJSREM)

A Comparative Analysis of Machine Learning Algorithms for Fraud Detection

VOLUME 09 ISSUE 05 MAY - 2025

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AI-Driven Natural Language Processing Using Transformer Models

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Abstract - The evolution of natural language processing (NLP) has been significantly accelerated by the development of transformer models, which have set new standards in language understanding and generation tasks. This paper explores the applications and impact of AI-driven NLP systems, specifically transformer architectures, in various fields such as information retrieval, sentiment analysis, and conversational AI. By leveraging the capabilities of transformer models like BERT, GPT, and T5, this research aims to develop a framework that enables accurate language comprehension and generation, enhancing the interaction between machines and humans. This study focuses on real-time applications and examines the model's capabilities in handling complex language tasks. Through rigorous testing and evaluation, we aim to validate the effectiveness of transformer-based NLP models in real-world scenarios, paving the way for their broader adoption.

Key Words: Natural Language Processing, Transformer Models, BERT, GPT, Real-time Language Understanding, AI-driven NLP

Abbreviations –
NLP: Natural Language Processing
AI: Artificial Intelligence
BERT: Bidirectional Encoder Representations from Transformers
GPT: Generative Pre-trained Transformer
API: Application Programming Interface

1. INTRODUCTION

In recent years, natural language processing (NLP) has undergone transformative changes due to advances in AI-driven models, particularly the development of transformer architectures. Transformers have revolutionized NLP by enabling models to capture complex linguistic structures, context, and meaning at a level previously unattainable by traditional methods. This research focuses on applying transformer models to various NLP tasks, such as language understanding, text generation, and conversational AI, aiming to enhance human-computer interaction and improve automated text processing.

Application –

Information Retrieval: Transformers can interpret user queries and deliver relevant content with high precision.

Sentiment Analysis: These models allow for accurate sentiment detection by understanding context and tone in text.

Chatbots and Conversational AI: Models like GPT enable the creation of sophisticated conversational agents that improve customer experience in real-time applications.

Role of Different Fields –

Machine Learning and Deep Learning: Machine learning algorithms underpin the training of transformer models for language tasks.

Linguistics: Understanding syntax and semantics is crucial for training language models that mimic human-like understanding.

Data Engineering: Effective data preprocessing and management are essential for optimizing transformer models, which require vast amounts of text data.

Recent Advancements –

BERT and GPT have set benchmarks for understanding and generating human language.

T5 (Text-To-Text Transfer Transformer) models unify multiple NLP tasks, making it possible to handle diverse language processing needs in a single framework.

Models like DistilBERT and TinyBERT allow efficient NLP processing on devices with limited computational resources, making real-time applications more accessible.

Challenges –

High Computational Costs: Training and deploying transformers require substantial computing resources.

Data Privacy: The use of large datasets, particularly in

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USING DATA SCIENCE TO OPTIMIZE DEEP LEARNING ALGORITHMS FOR HEALTHCARE APPLICATION

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ABSTRACT

Deep learning is transforming healthcare by enabling advanced diagnostics, predictive analytics, and personalized treatments. However, challenges such as data inefficiency, overfitting, and high computational demands hinder its full potential. This research explores the use of data science techniques to optimize deep learning algorithms for healthcare applications. Key methods include enhanced data preprocessing, feature engineering, and hyperparameter tuning. Techniques like Bayesian Optimization, Random Search, and transfer learning are applied to improve model accuracy and reduce computational costs. Experiments on healthcare datasets demonstrate improved performance in tasks like disease prediction and medical image analysis. These findings highlight the critical role of data science in refining deep learning models, paving the way for more efficient, scalable, and impactful AI solutions in healthcare.

Keywords: Deep Learning, Healthcare Applications, Hyperparameter Tuning, Medical AI , Predictive Analytics

1. INTRODUCTION

The application of artificial intelligence (AI) in healthcare has led to significant advancements, particularly in areas such as early disease diagnosis, predictive analytics, and personalized care. Among AI techniques, deep learning stands out due to its ability to process complex medical data, including images, genomic information, and patient histories, with remarkable precision. Despite these successes, the implementation of deep learning in healthcare encounters notable challenges, including limited availability of labeled datasets, computational inefficiencies, overfitting risks, and concerns about model interpretability.

Data science provides innovative approaches to address these challenges, offering tools to optimize the performance of deep learning models. Techniques such as advanced data preprocessing, feature selection, and systematic hyperparameter tuning have proven effective in enhancing algorithm efficiency. Additionally, strategies like transfer learning and ensemble modeling have shown promise in mitigating issues related to data scarcity and computational demands.

This research focuses on leveraging data science methodologies to refine deep learning algorithms for healthcare applications. By examining tasks like medical image classification, disease prediction, and patient outcome forecasting, this study highlights the potential for creating reliable, scalable, and impactful AI solutions that address critical healthcare needs

2. LITERATURE REVIEW

Deep learning has emerged as a powerful tool in healthcare, significantly improving the accuracy and efficiency of tasks such as disease diagnosis, medical imaging, and patient monitoring. Convolutional neural networks (CNNs), for instance, have been successfully applied to analyze medical images, aiding in the detection of diseases like cancer and retinal disorders. Recurrent neural networks (RNNs) and transformer models are also used to predict patient outcomes and analyze time-series data, such as patient vitals and electronic health records (EHR).

However, the adoption of deep learning in healthcare is still challenged by issues such as limited data availability, computational cost, and the complexity of model interpretation. Research has focused on addressing these challenges through various data science techniques. Data augmentation, feature selection, and normalization have been employed to improve model accuracy by enhancing the quality of input data. Moreover, approaches like hyperparameter optimization (e.g., Random Search, Bayesian Optimization) have been shown to enhance model efficiency and prevent

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Deep Learning Models on Big Data for Genomic Research

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Abstract - Genomic research is an essential component of modern medicine, providing critical insights into the genetic underpinnings of diseases and facilitating the development of personalized treatment approaches. However, the vast and complex nature of genomic data presents significant challenges for traditional data analysis methods. This project explores the application of deep learning models to big genomic data to address these challenges and enhance the accuracy of genomic predictions. Deep learning, with its ability to process large volumes of high-dimensional data, has shown great promise in various fields, including genomics, by automating the extraction of relevant patterns and features from genomic sequences. This project investigates the use of deep learning techniques such as Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), and Autoencoders in the analysis of genomic datasets.

Key Words: Genomic Research, Image Recognition, Deep Learning, Convolutional Neural Networks (CNNs), Data Science.

Abbreviations –
ML: Machine Learning
DL: Deep Learning
CNN: Convolutional Neural Network
NLP: Natural Language Processing
AI: Artificial Intelligence

1. INTRODUCTION

Genomic research is an interdisciplinary field that focuses on the study of genomes, the complete set of genetic material found within an organism. It encompasses various techniques and technologies aimed at understanding the structure, function, evolution, and mapping of genes within a genome. This research has become crucial in modern medicine, biotechnology, and evolutionary biology, as it provides insights into the genetic basis of diseases, human health, and biodiversity. With the advent of high-throughput sequencing technologies, such as Next-Generation Sequencing (NGS), genomic research has dramatically expanded in scope and scale. Genomic research is an interdisciplinary field that focuses on the study of genomes, the complete set of genetic material found within an organism. It encompasses various techniques and technologies aimed at understanding the structure, function, evolution, and mapping of genes within a genome.

1.1. Application

The application of deep learning in genomic research has become increasingly significant due to the complexity and scale of genomic data. Traditional methods of data analysis in genomics often struggle to handle the vast, high-dimensional datasets generated through next-generation sequencing (NGS) and other genomic technologies. Deep learning, however, offers several advantages in processing, analysing, and extracting meaningful insights from such large and complex datasets. By analysing genomic sequences and comparing them with known disease-related datasets, deep learning models can predict the functional impact of mutations and highlight potential biomarkers for disease diagnosis and prognosis

1.2. Role of Different Fields

The application of deep learning in genomic research is inherently interdisciplinary, drawing from various fields such as bioinformatics, machine learning, statistics, computational biology, and genetics. Each of these disciplines plays a crucial role in enhancing the effectiveness and scope of deep learning models for genomic data analysis. Bioinformatics is central to the integration of genomic data and computational methods. It provides the tools, algorithms, and databases needed to manage and analyse genomic data. In the context of deep learning, bioinformatics enables the preparation of genomic datasets for machine learning applications by performing tasks such as sequence alignment, variant calling, and annotation. Additionally, bioinformatics helps in the interpretation of the results by providing the necessary biological context, such as understanding the function of genes, regulatory elements, and mutations identified by deep learning models. This collaboration between bioinformatics and deep learning facilitates more meaningful biological insights from genomic data. Machine learning and deep learning are at the core of the project's approach to analysing big genomic data. These fields provide the algorithms and methodologies for developing models that can learn complex patterns and make predictions based on large datasets.

1.3. Recent Advancements

One of the most exciting advancements in genomic research is the ability to integrate multiple types of omics data—

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AI-Driven Early Medical Diagnosis for Rural Area

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ABSTRACT

Access to early diagnosis in rural India remains critically inadequate due to limited healthcare infrastructure, a shortage of trained professionals, and poor digital connectivity. This paper presents AIDia, a scalable, AI-powered diagnostic assistant built to serve underserved rural populations through mobile and kiosk-based platforms. AIDia integrates a symptom-based AI chatbot, image analysis using convolutional neural networks (CNNs), multilingual voice input, offline functionality, and telemedicine linkage. Designed for real-world constraints, it enhances triage accuracy and ensures faster referrals even in low-literacy and low-connectivity settings. The system incorporates ethical AI practices, including bias mitigation, data privacy, and explainability. Through community-level deployment, AIDia aims to strengthen rural health resilience and reduce the diagnostic gap.

Keywords: Artificial Intelligence, Early Diagnosis, Rural Healthcare, Symptom Checker, Telemedicine, CNN, Offline AI, Healthcare Access, Voice Interface

1. Introduction

India's rural population constitutes nearly 65% of the national demographic, yet the majority of healthcare resources are concentrated in urban centers. This imbalance results in delayed or absent diagnoses for preventable conditions such

E-Sanjeevani have made progress, but diagnostic services remain limited at the grassroots level. The urgent need for accessible, affordable, and intelligent diagnostic tools has inspired the creation of AIDia—an AI-powered early diagnosis system tailored for rural India. Operating via mobile phones and community kiosks, AIDia is designed to function offline, accommodate local languages, and link patients to professional consultation when needed. It demonstrates how AI can be responsibly deployed to transform primary healthcare in underserved regions.

2. Problem Statement

2.1 Healthcare Gaps in Rural India:

- 75% of India's healthcare infrastructure is urban, leaving rural populations underserved.
- Over 60% of rural households lack immediate access to medical professionals or diagnostic labs.
- Diseases often go untreated due to delayed detection and poor health literacy.

2.2 Barriers to Early Diagnosis

- Lack of diagnostic tools and trained personnel at local health centers.
- Inconsistent internet access and low digital penetration.
- High rates of illiteracy, especially among the elderly and women.

2. 3 Consequences

- Rising mortality and morbidity from treatable conditions
- Overburdened tertiary hospitals due to lack of early referrals
- Poor public health tracking due to lack of reliable health records

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Ethical Dilemmas of Artificial Intelligence Applications

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Abstract

Artificial Intelligence revolutionizes industries through automation, data analysis, and personalized services. Yet its rapid adoption raises critical ethical concerns: biased algorithms that discriminate, privacy violations from mass data collection, unclear accountability for AI decisions, workforce displacement, and dangerous military applications. Addressing these challenges requires proactive measures - developing unbiased systems, strengthening data protections, establishing legal frameworks, retraining workers, and regulating autonomous weapons. Only through responsible development and multi-stakeholder collaboration can we harness AI's benefits while safeguarding human rights and societal wellbeing.

1. Introduction

Artificial Intelligence has evolved from theory to transformative reality, powering innovations from virtual assistants to autonomous vehicles. The AI market is projected to reach $1.8 trillion by 2030 (Grand View Research, 2023). However, rapid adoption brings critical ethical dilemmas: biased algorithms, privacy erosion, accountability gaps, job displacement, and military applications. These challenges risk deepening inequalities if unaddressed. This analysis examines five key areas—bias, privacy, accountability, employment, and warfare—offering practical solutions through technology, policy, and ethics. By implementing safeguards and regulations, we can ensure AI benefits humanity equitably

2. Bias and Discrimination in AI Systems

2.1 The Pervasiveness of AI Bias:

AI systems learn from data—and if that data reflects historical or societal biases, the AI will perpetuate or even amplify them. This creates unfair outcomes, particularly for marginalized groups. The problem of algorithmic bias has become increasingly apparent as AI systems are deployed in high stakes domains like hiring, lending, and criminal justice.

2.2 Case Studies of AI Bias

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Enhancing Mental Health Support through Human-AI Collaboration: Toward Secure and Empathetic AI-enabled Chatbots

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ABSTRACT

The increasing demand for mental health support necessitates innovative solutions to augment traditional therapeutic approaches. This paper explores the potential of human-AI collaboration in enhancing mental health support, focusing on the development of secure and empathetic AI-enabled chatbots. We examine the current landscape of mental health chatbots, highlighting their limitations and ethical considerations. Furthermore, we propose a framework for designing AI chatbots that prioritize user privacy, data security, and empathetic communication. By integrating natural language processing, machine learning, and human-in-the-loop, we envision a collaborative model where AI chatbots serve as accessible and preliminary support systems, complementing the expertise and nuanced understanding of human mental health professionals. This paper discusses the key challenges and future directions in realizing the potential of secure and empathetic AI in transforming mental health support.

Keywords: Mental Health Support, AI Chatbots, Human-AI Collaboration, Artificial Intelligence, Natural Language Processing, Machine Learning, Affective Computing, Empathy, Data Security, Privacy, Telehealth, Digital Mental Health

1. Introduction

The prevalence of mental health challenges globally underscores the urgent need for accessible and effective support systems. Mental health disorders affect a significant portion of the population worldwide, leading to substantial individual suffering and societal costs. Traditional mental healthcare systems often face significant barriers that limit their capacity to meet this growing demand. These barriers include limited resources, such as a shortage of qualified professionals and inadequate funding for mental health services. High costs associated with therapy and treatment can also deter individuals from seeking help, particularly in regions with limited insurance coverage. Moreover, social stigma surrounding mental health issues can create a significant obstacle, preventing individuals from seeking the support they need due to fear of judgment or discrimination. These challenges highlight the critical need for innovative solutions that can overcome these barriers and provide more accessible and effective mental health support.

In recent years, Artificial Intelligence (AI) has emerged as a promising tool to address these challenges and transform the delivery of mental healthcare. AI offers the potential to automate certain tasks, provide personalized interventions, and increase access to support, particularly through the development of AI-enabled chatbots designed to provide mental health support. These chatbots offer the potential for round-the-clock availability, ensuring that individuals can access support whenever they need it, regardless of time or location. The anonymity provided by chatbots can also help reduce the stigma associated with seeking mental health support, encouraging more individuals to reach out for assistance. Furthermore, AI algorithms can personalize interactions based on individual user needs and preferences, potentially leading to more effective and engaging support experiences.

However, the deployment of AI in such sensitive domains raises critical concerns that must be carefully addressed. These concerns include data privacy and security, as mental health information is highly sensitive and requires robust protection. The potential for misinterpretation of user cues and the need for empathetic communication are also paramount, as AI systems must be able to understand and respond appropriately to complex emotional states. The

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Privacy Preservation Techniques in Machine Learning: A Survey of Methods, Challenges and Future Directions

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Abstract - The exponential expansion of machine learning (ML) applications in a variety of fields has raised concerns about the privacy of user data. Strong privacy-preserving methods must be developed because sensitive data used in model training may unintentionally be revealed. Under the headings of data anonymization, differential privacy, federated learning, homomorphic encryption, and secure multi-party computation, this survey offers a thorough summary of the privacy-preserving techniques currently used in machine learning. We examine their methods, advantages, drawbacks, and potential uses. In order to guarantee privacy compliance in ML-driven systems, the paper also Lists the main obstacles, unresolved research issues, and necessary future paths.

Keywords - *Homomorphic encryption, federated learning, machine learning, privacy preservation, differential privacy, and data.*

ABBREVIATIONS -

ML Machine Learning

PPML Privacy-Preserving Machine Learning

GDPR General Data Protection Regulation

HIPAA Health Insurance Portability and Accountability Act

MIA Membership inference Attack

DP Differential Privacy

FL Federated Learning

HE Homomorphic Encryption

SMPC Secure Multi-Party Computation

1. INTRODUCTION

ML is today one of the most significant trends in industries, as it uses data-driven insights to accelerate innovation and automation. However, as the volume and variety of the data gets larger, there are growing concerns about privacy and data protection. Large-scale machine learning models might incorporate sensitive personal information from many sources including healthcare systems, mobile application, financial services, and social networks. This data rich collection creates major privacy problems that need to be resolved urgently. Like big data, it paved the way for the 7Vs-Volume, velocity, and variety. But ML technologies are facing another "V" now: veracity. Veracity has direct implications on how personal data is protected-it demands trustworthiness, accountability, and security. And now that new regulations like the General Data Protection Regulation (GDPR) and the Health Insurance Portability and Accountability Act (HIPAA) emerge. Protecting user data is not an optional act anymore it is a mandate. Privacy-preserving machine learning (PPML) has emerged in response to this problem by developing algorithms and systems that mitigate the impact of loss of data (and hence predictive quality) while preserving individual-level data during the training, inference and sharing phases by leveraging a wide range of cryptographic, statistical and distributed learning techniques. This paper presents a structured overview of privacy-preserving methods in ML that cover relevant state-of-the-art strategies such as data anonymization, differential privacy, federated learning, holomorphic encryption and secure multi-party computation. Each privacy preserving technique has different tradeoffs between privacy and performance and computational efficiency. In order to keep the discussion organized, the paper first presents an overview of the main privacy threats that machine learning faces, including membership inference, model Inversion, and data leakage. Then it introduces a taxonomy of privacy preserving machine learning techniques that discusses the key principles, benefits, and use cases of each technique. Such privacy preserving machine learning techniques include data anonymization, differential privacy, federated learning, holomorphic encryption, and secure multi-party computation. Analytical analysis follows, where they compare various privacy preserving methods in terms of guarantees, scalability, effectiveness (in terms of accuracy), and computational cost. The paper then presents current challenges and open research issues that prevent more widespread implementation of these techniques. It also presents future research directions to guide the development of scalable, interpretable, and legally compliant ML models, and the paper concludes with an overview of the results and the need for further innovation in privacy-preserving machine learning.

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THE IMPACT OF AI ON HEALTHCARE: FROM PREDICTIVE ANALYTICS TO PERSONALIZED MEDICINE

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ABSTRACT

The use of Artificial Intelligence (AI) has been transforming the world of health care by enhancing the methods of diagnosis and treatment, as well as patient care services. AI technologies are being applied to medical imaging, drug development, predictive analytics, and personalized medicine [1-3]. This paper aims to address the multifaceted impacts of AI in healthcare which includes its applications; advantages, challenges, ethical implications, and prospects for the future. The study seeks to investigate how AI technology is transforming procedures and management in the health care systems while trying to capture the risks and obstacles to its implementation. The findings underscore the importance of AI in minimizing medical error, speeding up disease diagnosis, and stimulating innovation activities within medicine. It also analyzes practical case studies, policy issues, and regulatory ethics of AI in modern caregiving systems. The emphasis of the conclusion is the interdependence of humanity and AI technology in offering effective, dependable, and affordable medical care services.

Keywords: Artificial Intelligence, Healthcare, Diagnostic Assistance, Treatment Personalization, Data Privacy, Ethical Considerations.

ABBREVIATIONS

- **AI** – Artificial Intelligence
- **ML** – Machine Learning
- **NLP** – Natural Language Processing
- **CNN** – Convolutional Neural Network
- **RNN** – Recurrent Neural Network
- **DL** – Deep Learning
- **EHR** – Electronic Health Record
- **HIS** – Health Information System
- **IoMT** – Internet of Medical Things
- **CDSS** – Clinical Decision Support System
- **HIPAA** – Health Insurance Portability and Accountability Act
- **FDA** – Food and Drug Administration
- **SVM** – Support Vector Machine
- **EMR** – Electronic Medical Record
- **ANN** – Artificial Neural Network

1. INTRODUCTION

Definition of AI and Its Role in Healthcare

Artificial Intelligence (AI) is the application of human intelligence traits like problem-solving, learning, and reasoning to machines. Similarly, due to the rapid development of disciplines like computer science, AI encompasses many technologies, such as machine learning, natural language processing (NLP), computer vision, and robotics in healthcare [3]. AI has the ability to analyze clinical data, identify relevant patterns, and in diagnosing patients, and automates clinical decision-making, which improves the quality of care provided to patients [4].

In today's world, AI has many applications in the healthcare system, especially in diagnosing diseases, formulating personalized treatment strategies, automating routine work, and anticipating health hazards [5-6]. For example, AI-based diagnostic tools are capable of accurately diagnosing and classifying diseases like cancer and diabetic retinopathy with remarkable accuracy, often exceeding the performance of human experts [7]. Moreover, AI chatbots and virtual health assistants enhance remote monitoring and patient interaction [8].

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Augmented Reality In Personalized Education: A Game Changer For Neurodivergent Students

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Dr Akilesh Das Gupta Institute of Professional Studies, New delhi, India

Abstract : Neurodivergent students with conditions, such as autism spectrum disorder, attention deficit hyperactivity disorder, dyslexia, and other cognitive differences, often face unique chal- lenges in traditional learning environments. Augmented Reality technology holds immense potential to bridge these gaps by en-abling personalized, immersive educational experiences tailored to the specific needs of individual learners. This study explores the transformative impact of AR in personalized learning approaches for neurodivergent students, examining their benefits, associated challenges, and future prospects. It also presents case studies, expert insights, and the latest technological advancements in AR. Furthermore, this paper provides a comprehensive overview of academic frameworks, methodologies, and theories, highlighting cutting-edge developments in AR to emphasize its groundbreaking impact on special education. By harnessing the power of AR, educators can create engaging multisensory learning environments that cater to the diverse needs of neurodivergent learners, empowering them to thrive academically and socially.

IndexTerms - Augmented Reality, Personalized Education, Neurodivergent Students, ASD, ADHD, Dyslexia.

I.INTRODUCTION

Education has applied a one-size-fits-all method, often leaving neurodivergent learners behind. Because of technology, especially AR, the educational landscape is moving toward more inclusive and personalized methods. AR may provide personalized learning experiences with interactivity that are engaging and sensory-controlled per individual need, thus providing solutions for enhancing comprehension, engagement, and social interaction. Despite these potential advantages, the use of AR in special education is difficult

A. Definition of Neurodivergence

Neurodivergence describes how people's brains vary naturally in ways that affect how they act, learn, and interact with the world. The phrase encompasses a wide array of illnesses such as attention deficit hyperactivity disorder, autism spectrum disorder, dyslexia, and other cognitive differences. These neurodevelopmental variations frequently affect a person's cognitive processes, sensory perception, and social skills, necessitating specialized support and educational approaches. This concept highlights the idea that neurodiversity is a natural and valuable aspect of human variation, rather than a deficit or disorder. Therefore, recognizing and embracing neurodiversity is critical in the development of inclusive educational settings, where the unique strengths and difficulties of each student are acknowledged, as well as actively supported and integrated into the pedagogical framework. Because many neurodivergent learners often need special tools for learning to strengthen their focus, comprehension, and engagement levels, traditional teaching approaches might never work properly for them. This, in turn, makes them feel miserable and anxious and lowers their performance. AR can close this gap.

Forging the Future:
Student Triumphs in Hackathons and Technical Events

"Don't wait for opportunity. Create it."
— George Bernard Shaw

The Department of Artificial Intelligence and Data Science takes immense pride in nurturing a generation of innovators who continually push the boundaries of creativity and technology. Our students have actively participated in a wide array of technical events—including hackathons, project expos, coding competitions, paper presentations, and various inter-collegiate tech forums—both on campus and at prestigious institutions across the country.

These platforms offer far more than competition; they foster collaboration, real-world problem solving, and a powerful blend of academic learning with hands-on application. Our students have embraced these opportunities to develop smart solutions, engage in rapid prototyping, and explore cutting-edge applications of AI and Data Science.

Participation in hackathons, in particular, has empowered students to work under pressure, collaborate across disciplines, and develop functional prototypes addressing real-world challenges—from safety devices to socially impactful AI models. These experiences not only enhance their technical acumen but also build confidence, leadership, and entrepreneurial thinking.

Whether it's showcasing a Smart E-Cycle, securing top ranks at national hackathons, or presenting AI-powered innovations, our students continue to raise the bar and reflect the department's vision of experiential, innovation-led learning.

This section is a tribute to their dedication, curiosity, and pursuit of excellence—proof that when talent meets opportunity, remarkable things happen.

Smart E-Cycle: A Cross-Departmental Innovation at Utkarsh'24

AI&DS students, in collaboration with final-year ECE students, proudly showcased their innovative Smart E-Cycle at the Technical Exhibition during Utkarsh'24 at ADGIPS. The project, a result of excellent teamwork and technical creativity, was presented before the Director and other dignitaries. It received high appreciation and an exciting offer for future collaboration and startup incubation. This interdisciplinary effort reflected the students' commitment to practical innovation and real-world application. The event served as a great platform for showcasing talent, fostering entrepreneurship, and encouraging further innovation within the department and across the institution.

Participation in 'Beyond the Gantt Charts' at NorthCap University

Students from the Department of AI&DS participated in the one-day event titled 'Beyond the Gantt Charts: Building Moral Project Management' held at NorthCap University, Gurugram, on August 20, 2024. The event offered valuable insights into the ethical aspects of project management, emphasizing the role of moral integrity and ethical leadership in professional success. Through expert sessions and interactive discussions, participants gained a deeper understanding of values-driven project execution. It was an enriching experience that broadened the students' perspective on responsible decision-making in the ever-evolving world of technology and management.

Content Lead at Technorax V10.0 – IEEE ADGIPS Tech Fest

It was a proud moment to serve as the Content Lead for Technorax V10.0, the flagship tech fest of IEEE ADGIPS, held on October 14–15, 2024. Celebrating its milestone 10th edition, the two-day event was a vibrant showcase of innovation, learning, and technological excellence. The fest brought together brilliant minds from various domains, fostering a spirit of collaboration and creativity. Contributing to the event's success as part of the organizing team was an enriching experience, reinforcing leadership, teamwork, and communication skills in a dynamic and high-energy environment.

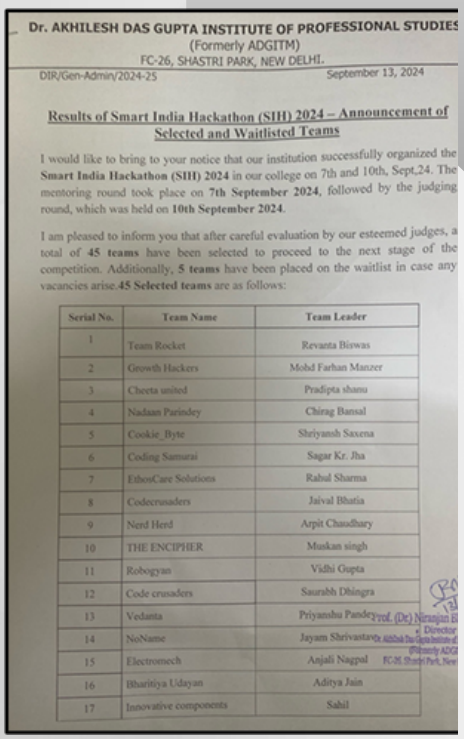
Top 3 Position at Yuvamanthan Hackathon 2024 – Hansraj College, Delhi

We are proud to share that our team secured a Top 3 position at the Yuvamanthan Hackathon 2024, held at Hansraj College on August 22, 2024. The team comprised Mohd Farhan Manzer from the Department of AI&DS, along with his peers from the AIML branch. Competing among some of the brightest young minds, the team showcased strong problem-solving skills and innovation through their impactful project. Their achievement reflects the spirit of collaboration, interdisciplinary learning, and the department's emphasis on hands-on experience in addressing real-world challenges.

SMART INDIA HACKATHON

Date of Event: 7th & 10th September 2024

The Smart India Hackathon (SIH) 2024 was successfully organized at Dr. Akhilesh Das Gupta Institute of Professional Studies (ADGIPS) on 7th and 10th September 2024. The event aimed to foster innovation and problem-solving skills among students by encouraging them to design and present solutions for real-world challenges.



Dr. AKHILESH DAS GUPTA INSTITUTE OF PROFESSIONAL STUDIES
(Formerly ADGITM)
FC-26, SHASTRI PARK, NEW DELHI.

DIR/Gen-Admin/2024-25 September 13, 2024

Results of Smart India Hackathon (SIH) 2024 – Announcement of Selected and Waitlisted Teams

I would like to bring to your notice that our institution successfully organized the **Smart India Hackathon (SIH) 2024** in our college on 7th and 10th, Sept.,24. The mentoring round took place on **7th September 2024**, followed by the judging round, which was held on **10th September 2024**.

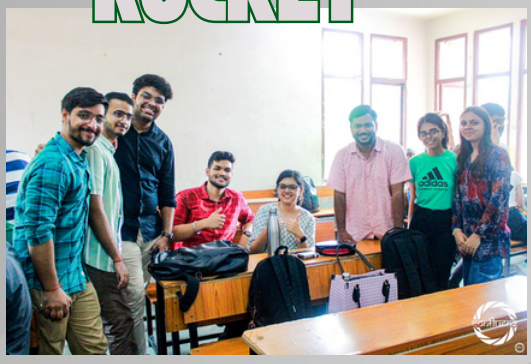
I am pleased to inform you that after careful evaluation by our esteemed judges, a total of **45 teams** have been selected to proceed to the next stage of the competition. Additionally, **5 teams** have been placed on the waitlist in case any vacancies arise.**45 Selected teams** are as follows:

Serial No.	Team Name	Team Leader
1	Team Rocket	Revanta Biswas
2	Growth Hackers	Mohd Farhan Manzer
3	Cheeta united	Pradipta shanu
4	Nadaan Parindey	Chirag Bansal
5	Cookie_Byte	Shriyansh Saxena
6	Coding Samurai	Sagar Kr. Jha
7	EthosCare Solutions	Rahul Sharma
8	Codecrusaders	Jaival Bhatia
9	Nerd Herd	Arpit Chaudhary
10	THE ENCIPHER	Muskan singh
11	Robogyan	Vidhi Gupta
12	Code crusaders	Saurabh Dhingra
13	Vedanta	Priyanshu Pandey
14	NoName	Jayam Shrivastava
15	Electromech	Anjali Nagpal
16	Bharitiya Udayan	Aditya Jain
17	Innovative components	Sahil

Prof. (Dr.) Niranjan Director

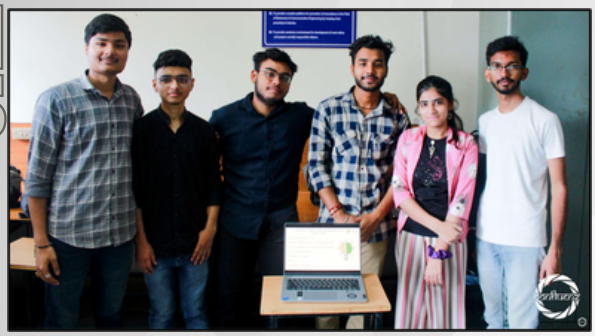
After rigorous evaluation, 6 teams were shortlisted from department of Artificial Ineelligence and Data Science to advance to the next stage of SIH 2024. The event not only highlighted the talent and determination of students but also reflected the institute's commitment to nurturing future innovators and entrepreneurs.

TEAM ROCKET



TEAM INNO-MINDS

TEAM GROWTH HACKERS



Teams Shortlisted from AI & DS branch:

- Team Rocket
- Growth Hacker
- Code crusaders
- Nadaan parindey
- Bharitiya Udayan
- 101 Devs

DataVerse - The Data Analytics Event

Date of Event: 7th September 2024

Successfully participated in **DataVerse - The Data Analytics** Event, held under InnovateX'24, organized by eCell NSUT on 7th September 2024.

Team Insight Analyst : Jyoti Rana, Kasak & Madhav Maheshwari

Team Data_Doctors: Priyanshu Gupta & Lokesh Kumar Arya

This event involves following rounds:

Round 1: Quiz on Data Analysis and Sustainable Development

- This round assess participants' knowledge of data analysis techniques, statistics, and sustainable development concepts.

Round 2: Data Cleaning & Objective Quiz

- The task is to clean the data and prepare it for analysis.

Round 3: Boardroom Simulation & Presentation

- Analyze the cleaned dataset provided in the previous round to predict outcomes or results.

Though we couldn't made it to the final round 3, it was a memorable event.

"Where data speaks, innovation listens."

TechVortex 2.0- An International Project Competition

Date of Event: 26th September 2024

Participated as **Team Data_Doctors** in the TechVortex 2.0 - An International Project Competition organized by the Symbiosis Institute of Technology (SIT), Pune.

Team Name: Data_Doctors

Team Members: Priyanshu Gupta, Lokesh Kumar Arya, Kasak, Jyoti Rana

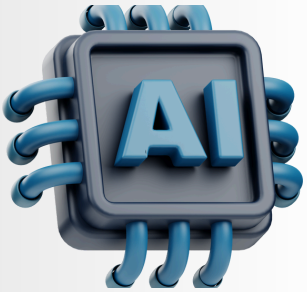
The Competition consist of 3 rounds as follows:

- **Round 1: Submission Round**
  - We submitted our project idea for the screening process.
- **Round 2: Screening Round**
  - Our team was selected for the next round.
- **Round 3: Offline/Online Presentation Round**
  - We present our project idea online through google meet to the evaluator.

Though we pitch our idea but it lacks some points that are pointed out by evaluator and encourage us to think on how to overcome that obstacles

brAInwave Hackathon

Date of Event: 25-26th October 2024



The highly anticipated **brAInwave Hackathon**, hosted by **AIMS-DTU**, took place from **October 25 to October 26 2025**, challenging participants in a thrilling 30-hour sprint of AI innovation. This event brought together over 100+ teams, competing to develop groundbreaking solutions in fields like Medicine, Finance, Education, and Defense, all using the power of Artificial Intelligence.

Our team, 1O1 Devs is represented by Ansh Kumar, Himanshu Shukla, and Ronit Kumar from Dr. Akhilesh Das Gupta Institute of Professional Studies, along with Gourav Tyagi from AKTU.

We developed **MentAI**, an innovative platform connecting therapists and clients through secure video calls and messaging. This platform allows clients to easily book sessions, make payments via cryptocurrency or cards, and even consult an AI chatbot for preliminary questions regarding their mental health.

The hackathon provided a unique experience with expert mentorship from industry professionals and services, and a shared passion for AI-driven solutions. Despite the intense 30-hour rush, we walked away with more than just knowledge—we earned valuable swag and memories that will last a lifetime.

GEEKS FOR GEEKS

Date of Event: 19th October 2024

GeeksforGeeks successfully concluded **Hackfest 2024**, its annual hackathon, on **19th October 2024** at the Delhi headquarters. The event attracted passionate developers, innovators, and problem-solvers from across the country, creating an atmosphere filled with energy and creativity.

Participants collaborated on diverse projects spanning AI, sustainability, education, and healthcare, turning ideas into prototypes under intense deadlines. With expert mentorship from GeeksforGeeks, the hackathon became not just a competition but also a platform for learning teamwork, design thinking, and effective pitching.

The winners earned prizes, internships, and recognition, while every participant gained invaluable experience and inspiration. Hackfest 2024 truly celebrated innovation, collaboration, and the limitless spirit of technology.

Hackfest 2024 proved—when passion meets guidance, innovation happens.

Projects Exhibition in Technorax 10.0 by IEEE ADGIPS

Date of Event: 15th October 2024

The much-anticipated **Technorax 10.0**, organized in collaboration with **IEEE ADGIPS**, recently concluded with a spectacular Projects Exhibition. The event served as a dynamic platform for students to present their innovative ideas, blending technical prowess with creativity.

From cutting-edge software solutions to impactful hardware prototypes, the exhibition highlighted the talent, curiosity, and problem-solving skills of budding engineers. Students had the opportunity to interact with peers, faculty, and industry mentors, receiving valuable feedback and exposure to real-world perspectives.

Technorax 10.0 not only celebrated student innovation but also encouraged collaboration and knowledge sharing, leaving behind inspiration for future editions to be even bigger and bolder.

S.No.	Project Name	Student Name	Year	Date (Presented)
1	Virtual Desktop Assistant	Moksh Jain Amish Kumar Sehaj Vij	2nd year	15.10.24
2	Chatbot	Harshit Rathore Mohit Daundiyal	2nd year	15.10.24
3	Kishaan Seva	Rakshit Dabral Aman Singh Jaival, Abhigayn Divya, yash	3rd year	15.10.24
4	Research On Perfect Numbers	Mayank Garg	2nd year	15.10.24

Innovative Entrepreneurship at College Fest

Date of Event: 14th October 2024

In a remarkable display of creativity and entrepreneurial spirit, six students—**Tanish Jain, Harsh Pandey, Md Shazeed, Gaurav Singh, Yagya Suri, and Dhruv**—successfully participated in the college fest held on **14th October 2024**.

As part of their initiative, they set up an innovative stall titled **Spin & Drink**, which attracted a large number of visitors throughout the three-day event.

The concept was simple yet engaging: participants would spin a wheel, and based on the outcome, they would win different types of soft drinks as prizes. This interactive and entertaining setup not only drew enthusiastic crowds but also generated substantial profits, showcasing their business acumen and teamwork. Their venture stood out as a prime example of practical application of entrepreneurial skills and was widely appreciated by faculty and students alike.

Faculty Development Program

Date of Event: 19.08.2024 - 23.08.2024

The Faculty Development Program (FDP) on "Research Methodologies for Science, Management, and Engineering" aimed to equip participants with essential skills and knowledge required for conducting high-quality research across various disciplines.

The objective was to:

- Introduce participants to advanced research methodologies.
- Enhance their understanding of research design, data collection, analysis techniques, and hypothesis testing.
- Familiarize them with modern tools and software for data analysis and literature review.
- Encourage interdisciplinary research and project formulation aligned with societal needs.
- Develop competence in using statistical software like SPSS, conducting literature reviews, and applying intellectual property rights (IPR) concepts.

Awareness Program on AICTE IDEA Lab

Date of Events : August 27, 2024 - August 29, 2024

Location: Deenbandhu Chhotu Ram University of Science and Technology (DCRUST), Murthal

The primary objectives of the visit were to:

1. Enhance Practical Knowledge: Expose students to the practical applications of arti icial intelligence and data science.
2. Familiarize with AICTE Idea Lab: Provide insight into the resources, facilities, and opportunities available in the AICTE Idea Lab.
3. Encourage Innovation: Inspire students to engage in innovative projects and understand the importance of AI and data science in modern technology.

Indigenous 5G Test Bed O&M Project for IoT Setup

Date of Event: 27th September 2024

Location: **Bharti School of Telecommunication Technology and Management at Indian Institute of Technology (IIT) Delhi**

The primary objective of the industrial visit was to:

- Understand the 5G Test Bed infrastructure and its potential for IoT applications.
- Gain insights into the indigenous development and maintenance of 5G technology.
- Explore how 5G technology can be integrated into IoT ecosystems to facilitate smart devices, automation, and data analytics.
- Bridge the theoretical knowledge acquired in the classroom with practical, hands on industry experience.

Industrial Visit: Drone Innovation Lab

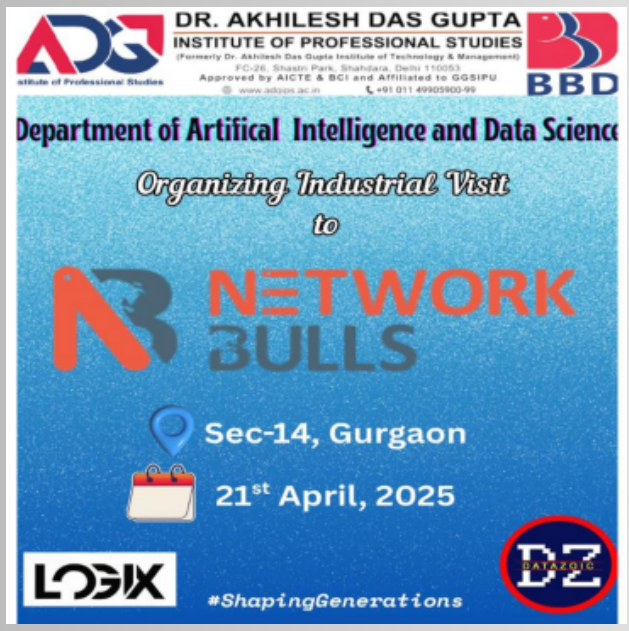
Date of Event: 23th October 2024

On **23rd October 2024**, students visited the **Drone Innovation Lab** at the Indraprastha Institute of Information Technology, Delhi **(IIIT-Delhi)**. The visit offered a unique opportunity to explore the cutting-edge world of drone technology and applications.

During the session, students gained insights into the design, mechanics, and real-world usage of drones in sectors like agriculture, disaster management, defense, and logistics. The lab showcased advanced prototypes and research projects, sparking curiosity and discussions about the future of unmanned aerial systems.

The **industrial visit** proved to be highly enriching, combining practical exposure with academic learning, and left students inspired to think innovatively about the possibilities of drone technology.

Industrial Visit: Network Bulls, Gurugram



Date of Event:21ST APRIL 2025

The Department of Artificial Intelligence and Data Science organized an industrial visit to Network Bulls, a renowned Cisco training center, on 21st April 2025. The objective was to provide students with practical exposure to real-world networking infrastructure and its significance in AI and Data Science applications.

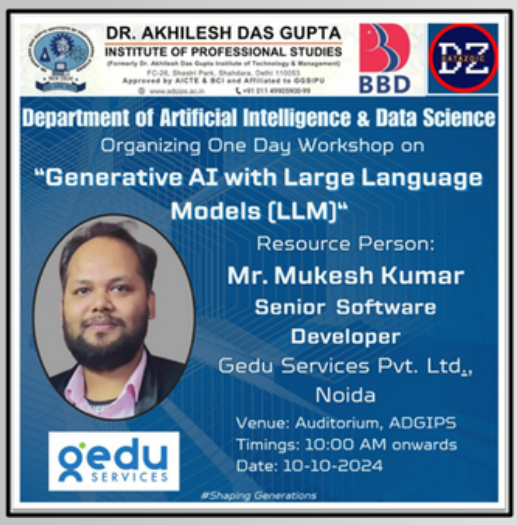
The visit began with a welcome session and orientation on networking fundamentals and their integration with cloud computing and AI systems. Students toured one of India's largest Cisco labs, witnessing live setups of routers, switches, and firewalls, along with demonstrations on how networking supports real-time data transfer and AI model deployment.

A technical workshop introduced students to IP addressing, distributed computing, and IoT-based AI applications. The visit concluded with an interactive Q&A session with industry experts, who shared career advice and insights on combining network engineering with AI/ML for enhanced system performance.

Learning Outcome:

Students gained valuable hands-on experience and a better understanding of how networking underpins AI-driven architectures. The visit sparked interest in pursuing network certifications to complement their AI & DS skill set.

Generative AI with Large Language Models (LLM)



Date of Event: 10th October 2024

The **workshop** aimed to provide in-depth knowledge about the rapidly evolving field of Generative AI, focusing on the capabilities and applications of Large Language Models (LLM), such as ChatGPT and other transformative AI technologies.

The event commenced at 10:00 AM in the college auditorium, with Mr. Mukesh Kumar, Senior Software Developer at Gedu Services Pvt. Ltd., Noida, serving as the resource person for the workshop. Mr. Kumar is a well-regarded expert in AI and machine learning, and his deep understanding of large-scale models made him the ideal guide for this session.

Effective Technical Writing for Research

Date of Event: 23rd January 2025

The Department of Artificial Intelligence & Data Science organized a one-day workshop on "Effective Technical Writing for Research", aimed at enhancing the academic writing skills of students and faculty.

The session was conducted by Dr. Rajender Kumar, Associate Professor, Bhagat Phool Singh Mahila Vishwavidyalaya, Khanpur, Sonepat. He shared valuable insights on research paper structuring, citation styles, and common writing challenges.

The workshop benefitted both students and faculty members by improving their understanding of professional research documentation and fostering a strong foundation in technical communication.

Expert Lecture on
“Plant Diseases Prediction Using AI and ML”

Date of Event:7th APRIL 2025

The Department of Artificial Intelligence and Data Science organized an expert lecture on “Plant Diseases Prediction Using AI and ML” to explore the intersection of technology and agriculture. The session was delivered by Dr. Anuradha Chug, Associate Professor, USICT, GGSIPU, Delhi. It aimed to showcase how AI and machine learning can revolutionize plant health monitoring and disease prediction.

The lecture introduced students to the fundamentals of AI and ML, common plant diseases, and traditional versus modern detection methods. Dr. Chug highlighted how algorithms like Decision Trees, Random Forest, Neural Networks, and CNNs enhance prediction accuracy, especially in image-based diagnostics.

A practical demonstration followed, using Python, TensorFlow, and OpenCV, where students observed the process of data collection, model training, and real-time disease detection using plant images.

An engaging Q&A session allowed students to discuss model performance, data sourcing, and the broader impact of AI in agriculture.

Expert Lecture on “Opportunistic Networks: A Communication Framework for Remote Regions”

Date of Event:17th APRIL 2025

TThe department of Artificial Intelligence and Data Science organized an expert lecture on “Opportunistic Networks”. The primary objective of the expert lecture was to introduce students and faculty to the emerging concept of Opportunistic Networks (oppnets) and to explore its role as a novel communication paradigm for environments with limited or no infrastructure, such as remote or disaster-affected regions. Dr. Seema Jangra, Assistant Professor, Indraprastha College for Women, University of Delhi, Delhi was the speaker.

She emphasized the importance of innovative, flexible, and intelligent solutions to connect the unconnected, resonating deeply with the department’s mission to blend technology with social relevance.

The session sparked interest in exploring unconventional networking models for socially impactful applications.

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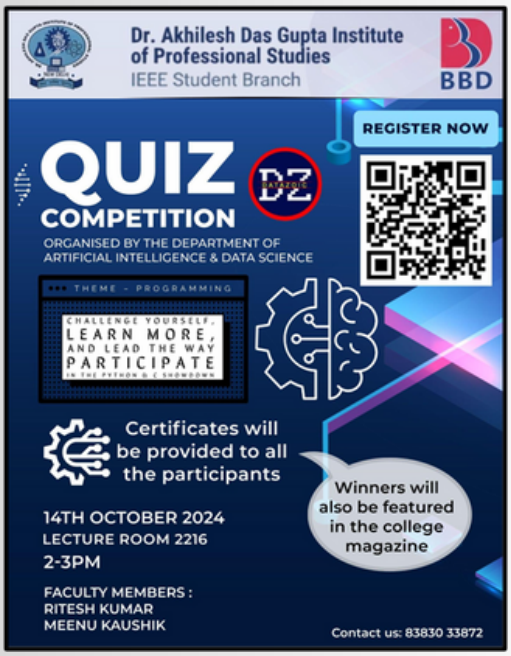
Extra Curricular Events

QUIZ Competition

Date of Event: 14th October 2024

The **Programming Quiz Competition** was an engaging and fast-paced MCQ competition designed to test the participants' knowledge across various subjects. The event was well-attended, with students actively participating and demonstrating their quick-wittedness and problem-solving abilities.
Event Highlights:

- Individual Participation: The quiz required participants to join individually, making it a highly competitive event.
- Online Format: Participants used smartphones and stable internet connections to take part in the quiz, creating a seamless and accessible experience for all.
- Prizes: E-Certificates to all the participants



Winners:

- 1st Place: Govind (AI&DS) – 2nd Year
- 2nd Place: Ankit Mishra (AI&DS) – 1st Year
- 3rd Place: Saksham Madaan (AI&DS) – 1st Year

TechQuest: Decode & Dominate

Date of Event: 15th October 2024

TechQuest: Decode & Dominate was an exciting event aimed at testing the participant's knowledge of Python, Machine Learning, and Data Science. The event attracted numerous students eager to showcase their skills and engage in a friendly yet competitive atmosphere.

The event was structured into three unique rounds, each designed to evaluate different technical skills:

❖In Round 1, participants tackled a crossword puzzle based on fundamental Python concepts, including data types, functions, loops, and libraries. This round tested their foundational Python knowledge while challenging them to think quickly under pressure.

❖Round 2 shifted focus to machine learning, where participants faced a word search with clues leading to key terms such as "Outlier," "Neural Network," "Clustering," and "Variance." Competitors had to combine their technical understanding with speed to identify these terms hidden within the grid.

❖In Round 3, the final quiz covered both basic Python and data science topics, testing participants on Python syntax, data handling, and important data science methods, requiring a strong grasp of both fields to succeed.

Mayank Garg from AI & DS Department, 2nd year was the winner of this successful event.

Mind Exchange

Date of Event: 15th October 2024

Mind Exchange was a group discussion event designed to promote critical thinking, articulate communication, and the sharing of ideas among participants. Organised by the **Artificial Intelligence & Data Science Department**, the event provided a platform for students to engage in thought-provoking discussions on various topics relevant to technology, data science, and current trends in AI.

Participants were divided into groups, with each group tasked with discussing a given topic, presenting their viewpoints, and defending their arguments.

Impact: The event encouraged collaboration while also pushing participants to express their ideas clearly and confidently.

Evaluator's Role: Ms. Pragya served as the judge for the event, providing insightful feedback on each group's performance. She assessed participants on their ability to articulate their thoughts, engage in meaningful dialogue, and contribute constructively to the group discussion.

Ankit Kumar Giri from ECE Department, 1st year was the winner of this wonderful event.

Free Fire Event

Date of Event: 19th February 2025

The **Free Fire Tournament – "BR Squad"**, organized by DataZoic, Department of Artificial Intelligence & Data Science, was successfully held on **19th February 2025 as part of Utkarsh 2025**, the Annual Fest. The event aimed to provide a competitive platform for gaming enthusiasts, fostering teamwork, strategic thinking, and quick decision-making.

Event Highlights

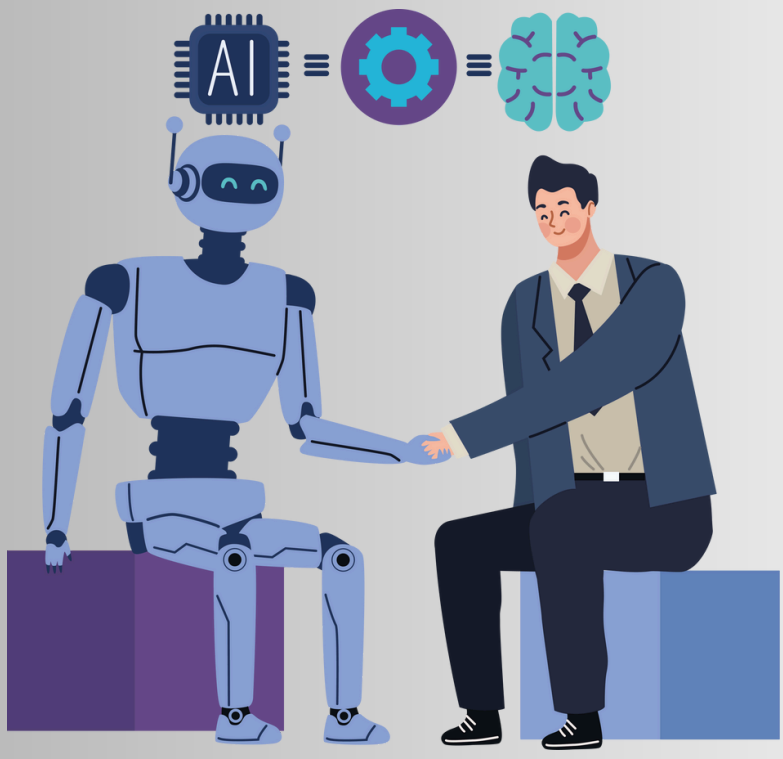
- The tournament saw an enthusiastic participation of 50 players, all eager to showcase their gaming skills.
- The event started at 10:00 AM, with a briefing on the rules, match format, and fair play guidelines.
- Players engaged in intense battle royale matches, exhibiting impressive coordination and strategic gameplay.
- The competition progressed through multiple elimination rounds, with each match increasing in excitement and intensity.
- The final match witnessed a thrilling showdown, with Mr. Harsh (B.Tech 2nd Year) emerging as the winner, demonstrating exceptional skill and strategy.

Conclusion: The Free Fire Tournament "BR Squad" was a grand success, adding a dynamic and engaging element to Utkarsh 2025. The event not only entertained but also reinforced the importance of teamwork, adaptability, and strategic thinking in esports.

The DataZoic team extends heartfelt thanks to all participants and supporters for making the tournament a memorable and competitive experience. The overwhelming response has encouraged the organizers to plan similar gaming events in the future, further promoting the esports culture among students.

Unmask AI

Date of Event: 14th October 2024



Real VS AI challenge

"Unmask AI", organized by DATAZOIC, Department of Artificial Intelligence & Data Science, was successfully held on 19th February 2025 as part of Utkarsh 2025, the Annual Fest. The event aimed to provide a competitive platform for players against AI challengers to test their skills. It fostered teamwork, quick decision-making, and human intuition.

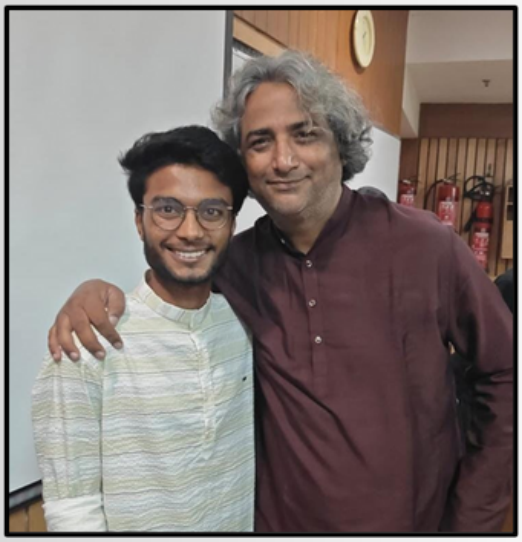
The students of S-13 put together an exciting and well-structured event, Unmask AI, featuring three challenging rounds that kept participants engaged and the competition intense

Sports Achievements

Pushkar Jha Participated in GGSIPU Annual Sports Meet 2024 and received a Silver Medal in Tennis (doubles).

Cultural Activities

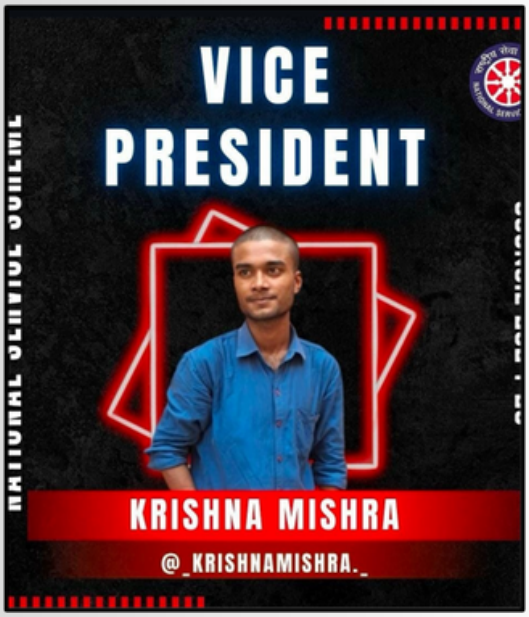
Krishna Mishra Achieved 3rd position in 'छात्र कवि संगोष्ठी' at annual cultural fest of IIT Delhi – Rendezvous'24 judged by famous International poet 'Azhar Iqbal'



Invited as a judge in an open mic conducted by 'Women Development Cell– Hansraj College' on 3 October, 2024

Served as the '**Hindi Department Head**' of the official Creative Writing Society- ALFAAZ.

Served as the Vice President of the National Service Scheme (NSS).



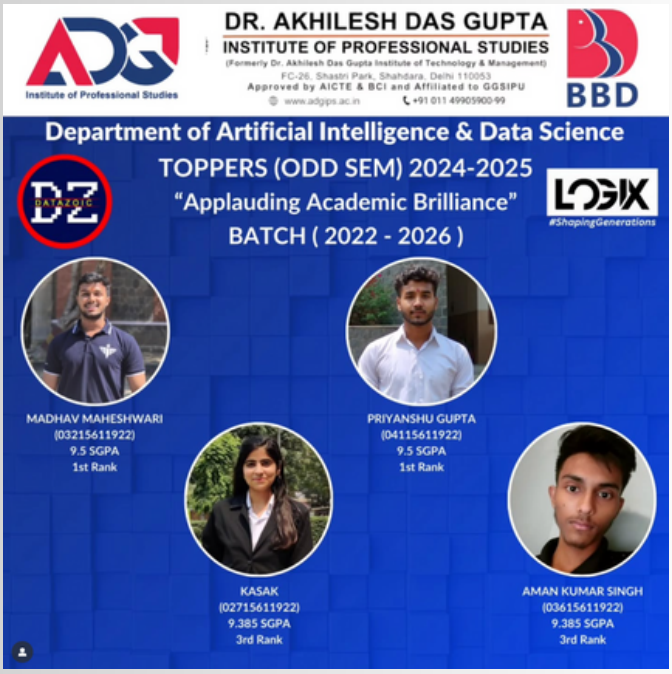
Academic achievements

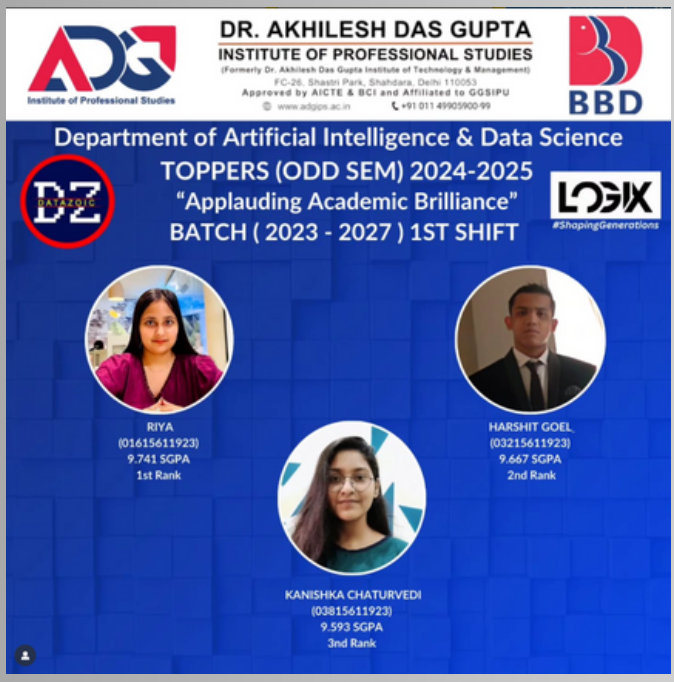
"Academic achievements are not just milestones; they are the stepping stones to a future shaped by knowledge, diligence, and a commitment to excellence.

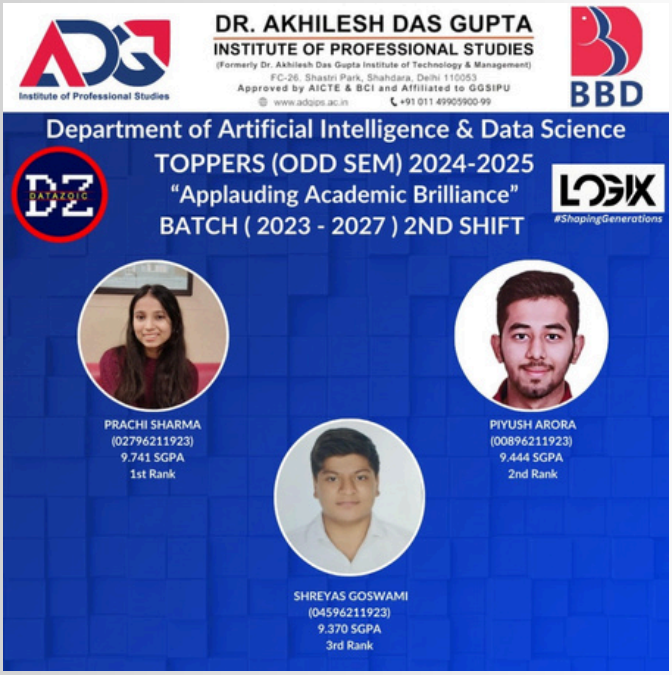
Albert Einstein –

"Education is not the learning of facts, but the training of the mind to think."

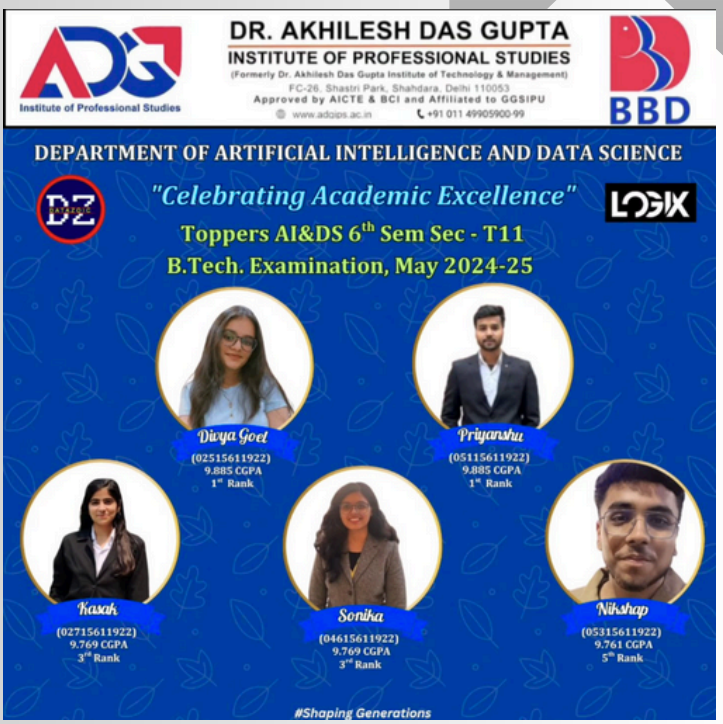
ODD Session







Even Session



Shaping Futures Through Internships

Our students proudly participated in internships with reputed organizations, gaining valuable industry exposure, practical skills, and professional networks. These experiences strengthen career readiness and highlight our college's commitment to excellence

"The future belongs to those who prepare for it today." – Malcolm X

Internship Details (2024-25)

Name	Industry.Company/Organisation	Domain
Rishabh Sharma	Coding Jr	AI Researcher
Shubham singla	Atlanta Systems Pvt Ltd	AI&ML Intern
TUSHAR SINGH	Febi.AI	ML INTERN
Ashish Ranjan	Febi.ai	Ml Intern
Mohd Shawez Khan	Credohire	Data science intern
Sahil Gupta	GeeksforGeeks	MTS Data Science Intern
Kushal Gupta	Ministry of New & Renewable Energy	Research & Development Intern
Nandini Singh	SoftwareOne Academy	Junior Associate - Data & AI
Deepak Choudhary	Febi.ai	ML intern
Hardik Sharma	Geeksforgeeks	Member of Technical Staff (MTS) - Data Science Intern
Anurag Kumar Jha	Northstar Impact Solution	AI/ML Intern
Ansh Varshney	Geeks for geeks	Member of technical staff -Data science
Dhruv Yadav	Defence Institute of Advanced Technology	Research Internship
Ayush Dubey	NetEdge Computing	Ai Programmer Intern
Jatin Singh Sagoi	Techolution	Artificial Intelligence Intern
Shivay Mehra	Spyne.ai	Data Analyst
Gaurav Kumar Singh	Innobuzz	AI Engineer

Sahil Aggarwal	Culinda	Ml Intern
DHRUV	culinda	ml intern
Yuvika Tanwar	Impetus Technologies	Project Trainee
Tanish Jain	Godrej Capital	Analytics Intern
Anuj bansal	Samsung	Product engineer intern
Pratham Bisht	Synlex Intelligence	ML Engineer
Yagya Suri	BrancoSoft	Web developer
Palak Garg	Infosys	System Engineer
Kanishak Tehwatia	Indian meteorological department	Data analyst intern

Government of India
MINISTRY OF NEW AND RENEWABLE ENERGY

No.342-16/1/2024-HRD

To,
Shri Kushal Gupta
C-11, Street Number-7,
New Krishna Nagar,
Delhi-110051.

Sub: Internship in Renewable Energy under National Renewable Energy Internship Programme of MNRE - Reg.

Sir,

With reference to your application No. NRE/2024/1167 regarding request for the internship in Renewable Energy Programme of MNRE, it is to inform that the Ministry has accepted your candidature for physical internship in renewable energy for 3 months (three). A Stipend of Rs. 15,000/- per month will be provided to you during the internship period.

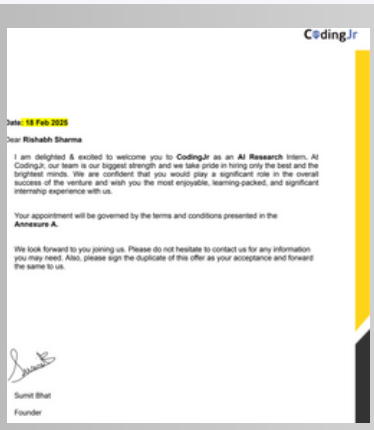
2. You will be awarded a certificate from this Ministry after successful completion and evaluation of your performance/report/paper by the mentors assigned to you at the end of the course. The information regarding your mentor in the Ministry and its Institutes and other guidelines of the internship would be conveyed shortly.

3. Kindly note that the internship in no circumstances be considered as grant/claim for job in Government of India. The intention is to provide an exposure to the students/candidates in the area of renewable energy. The other details may also be referred in the "National Renewable Energy Internship Scheme" issued by MNRE vide circular no. 342-16/2/2021-HRD dated 07.12.2021 and available at the MNRE website (mnre.gov.in).

4. You are requested to submit the proof of the educational qualifications/achievements/other details (you have submitted in application) along with your willingness and date of joining for the internship. If interested, a No Objection Certificate (NOC) [format attached] from your Institution to permit you for this internship for the period for which you have been selected. If any, discrepancy is found, the candidature of the candidate shall be cancelled by the Ministry.

Encl: NOC Format

Yours sincerely,
(Dr. Vasanta V. Thakur)
Scientist 'E'
Tel: 23849067



CodingJr

Date: 18 Feb 2025

Dear Rishabh Sharma

I am delighted & excited to welcome you to CodingJr as an AI Research Intern. At CodingJr, our team is our biggest strength and we take pride in hiring only the best and the brightest minds. We are confident that you would play a significant role in the overall success of the venture and wish you the most enjoyable, learning-packed, and significant internship experience with us.

Your appointment will be governed by the terms and conditions presented in the Annexure A.

We look forward to you joining us. Please do not hesitate to contact us for any information you may need. Also, please sign the duplicate of this offer as your acceptance and forward the same to us.

Sumit Bhat
Founder

GeeksforGeeks

Subject: Offer Letter

09th December 2024

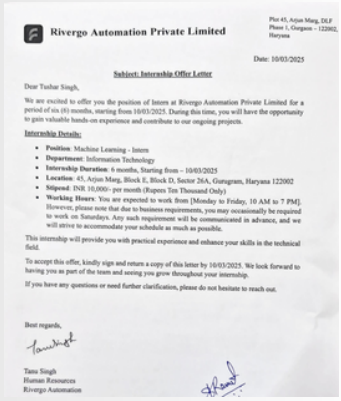
Dear Sahil Gupta ,

Congratulations !!

We are delighted and excited to welcome you as a Member of Technical staff Intern at GeeksforGeeks. We believe that our team is our biggest strength and we take pride in hiring ONLY the best and the brightest. We are confident that you would play a significant role in the overall success of the venture. We also wish you the most enjoyable, learning packed, and truly meaningful work experience with us!

Your appointment at GeeksforGeeks will be governed by Annexure A and Annexure B of this Offer letter. Please do not hesitate to call/mail us for any information you may need. Also, please do sign each page of the print copy of this Offer letter as your acceptance and forward/mail the same to us.

Dharmesh Singh
GeeksforGeeks



Rivergo Automation Private Limited

Plot 45, Arjun Marg, DLF Phase 1, Gurgaon – 122002, Haryana

Date: 10/03/2025

Subject: Internship Offer Letter

Dear Tushar Singh,

We are excited to offer you the position of Intern at Rivergo Automation Private Limited for a period of six (6) months, starting from 10/03/2025. During this time, you will have the opportunity to gain valuable hands-on experience and contribute to our ongoing projects.

Internship Details:

- Position: Machine Learning - Intern
- Department: Information Technology
- Internship Duration: 6 months, Starting from – 10/03/2025
- Location: 45, Arjun Marg, Block E, Block D, Sector 26A, Gurugram, Haryana 122002
- Stipend: INR 10,000/- per month (Rupees Ten Thousand Only)
- Working Hours: You are expected to work from [Monday to Friday, 10 AM to 7 PM]. However, please note that due to business requirements, you may occasionally be required to work on Saturdays. Any such requirement will be communicated in advance, and we will strive to accommodate your schedule as much as possible.

This internship will provide you with practical experience and enhance your skills in the technical field.

To accept this offer, kindly sign and return a copy of this letter by 10/03/2025. We look forward to having you as part of the team and seeing you grow throughout your internship.

If you have any questions or need further clarification, please do not hesitate to reach out.

Best regards,

Tanu Singh
Human Resources
Rivergo Automation

one

OFFER cum APPOINTMENT LETTER for the Post of Junior Associate Data & AI – Software & Cloud

January 24, 2025

Nandini Singh

Dear Nandini Singh,

SoftwareOne India Private Limited is pleased to appoint you as Junior Associate Data & AI, Software & Cloud. The purpose of this letter is to describe the General Terms & Conditions of your employment with SoftwareOne India Private Limited with effect from your joining date, February 10, 2025.

Your Appointment shall be on the following Terms and Conditions:

- LOCATION
- COMMENCEMENT DATE
- REMUNERATION
- TAXATION

For SoftwareOne India Private Ltd — Acknowledge and Accepted by

Zeeshan Hasan
Head of HR Shared Services- APAC & EMEA

Nandini Singh
Junior Associate Data & AI

GeeksforGeeks

Subject: Offer Letter

07th June 2024

Dear Hardik Sharma,
Congratulations !!

We are delighted and excited to welcome you as a Teaching Assistant Intern at GeeksforGeeks. We believe that our team is our biggest strength and we take pride in hiring ONLY the best and the brightest. We are confident that you would play a significant role in the overall success of the venture. We also wish you the most enjoyable, learning packed, and truly meaningful work experience with us!

Your appointment at GeeksforGeeks will be governed by Annexure A and Annexure B of this Offer letter. Please do not hesitate to call/mail us for any information you may need. Also, please do sign each page of the print copy of this Offer letter as your acceptance and forward/mail the same to us.

Manikanta Upuluri
Human Resources Department
GeeksforGeeks

A unit of 'Sanchhaya Education Pvt. Ltd.'
A 143, 9 TH FLOOR, SOVEREIGN CORPORATE TOWERS, GREATER NOIDA EXPRESSWAY, SECTOR 136, NOIDA, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, 201305
CIN - U80300UP2015PTC072786 | Email: careers@geeksforgeeks.org
Web: www.geeksforgeeks.org

To,
Dhruv Yadav
Near Ali Cloth House, Rajokri
New Delhi, India
Email: work.dhruvyadav100@gmail.com
Phone: +91 9971330386

Subject: Internship Offer Letter

Dear Dhruv,

We are pleased to offer you the position of Research Intern at the Defence Institute of Advanced Technology (DIAT). Your internship with us commenced in January 2025, and we are excited to have you as part of our research team.

Your internship will be for a 6-month period, subject to performance evaluation and project requirements. The terms and conditions of your internship, including confidentiality agreements and code of conduct, will be shared with you separately.

We look forward to your contributions and believe this opportunity will be mutually beneficial. If you accept this offer, please confirm your acceptance by signing and returning a copy of this letter.

Welcome to the Defence Institute of Advanced Technology!

Best regards,

Dr. Bharath Ram
Assistant Professor
Defence Institute of Advanced Technology (DIAT)
rbharath.diat@gmail.com

Acceptance Acknowledgment:

I, Dhruv Yadav, accept the internship offer at the Defence Institute of Advanced Technology (DIAT) as a Research Intern. I acknowledge the terms and conditions outlined in this letter.

Signature: Dhruv Yadav
Date: 20/01/2025

Rivergo Automation Private Limited

Plot 45, Arjun Marg, DLF Phase 1, Gurgaon – 122002, Haryana

Date: 13/09/2024

Subject: Internship Offer Letter

Dear Ashish Ranjan,

We are excited to offer you the position of Intern at Rivergo Automation Private Limited for a period of six (6) months, starting from 18/09/2024. During this time, you will have the opportunity to gain valuable hands-on experience and contribute to our ongoing projects.

Internship Details:

- Position: Machine Learning - Intern
- Department: Information Technology
- Internship Duration: 6 months, Starting from – 18/09/2024
- Location: 45, Arjun Marg, Block E, Block D, Sector 26A, Gurugram, Haryana 122002
- Stipend: INR 10,000/- per month (Rupees Ten Thousand Only)
- Working Hours: You are expected to work from [Monday to Friday, 10 AM to 7 PM]. However, please note that due to business requirements, you may occasionally be required to work on Saturdays. Any such requirement will be communicated in advance, and we will strive to accommodate your schedule as much as possible.

This internship will provide you with practical experience and enhance your skills in the technical field.

To accept this offer, kindly sign and return a copy of this letter by 14/09/2024. We look forward to having you as part of the team and seeing you grow throughout your internship.

If you have any questions or need further clarification, please do not hesitate to reach out.

Best regards,

Preeti Rani
Human Resources
Rivergo Automation

Culinda

INTERNSHIP OFFER LETTER

Date: 08-12-2024

Dear Sahil Aggarwal,

I am pleased to offer you an Machine Learning Intern at Culinda in the IT department. As we discussed, you will be scheduled to intern approximately 25 hours/week and your internship will begin on 5 January 2025 and the duration will be of 6-months. If you accept this internship offer, you will report to Shrashti Singhal (shrashti@culinda.com)

As an intern, you are not the company's employee; and therefore, will not receive benefits of company, but will provide the intern allowance of Rs.15,000/month. During your internship you may come across confidential business information. By accepting this internship offer, you acknowledge that you must adhere to our confidentiality policy. In addition, upon conclusion of your internship, you must return all company-owned property, equipment, and documents, including electronic mail or other information.

If you have any questions about the terms of our offer outlined above, please contact me at (Srinivas) hr@culinda.com. We are very excited about the prospect of you joining our team as an intern at Culinda! To learn more about Culinda, please visit our website at www.culinda.com

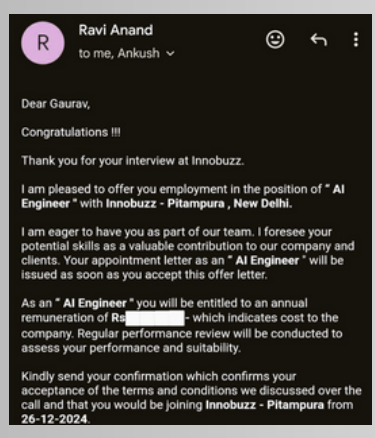
Authorized Signatory

D.Srinivas
HR Manager

If you accept for the above the terms and conditions, please acknowledge via email.

FULL NAME: _____
DATE: _____ SIGNATURE: _____

Culinda India Private Limited
Plot No: 4/2, Sector 1, 4th Floor, RAM SVR,
HUDA Techno Enclave, Madhapur, Hyderabad 500034.
hr@culinda.com | www.culinda.io



Ravi Anand
to me, Ankush

Dear Gaurav,

Congratulations !!!

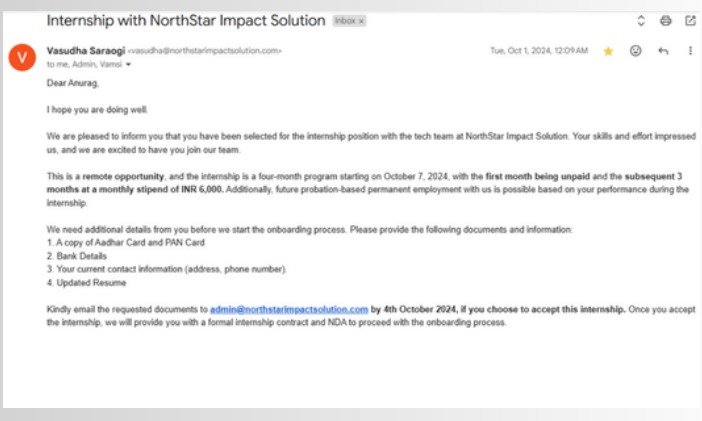
Thank you for your interview at Innobuzz.

I am pleased to offer you employment in the position of " AI Engineer " with Innobuzz - Pitampura , New Delhi.

I am eager to have you as part of our team. I foresee your potential skills as a valuable contribution to our company and clients. Your appointment letter as an " AI Engineer " will be issued as soon as you accept this offer letter.

As an " AI Engineer " you will be entitled to an annual remuneration of Rs[redacted] - which indicates cost to the company. Regular performance review will be conducted to assess your performance and suitability.

Kindly send your confirmation which confirms your acceptance of the terms and conditions we discussed over the call and that you would be joining Innobuzz - Pitampura from 26-12-2024.



Internship with NorthStar Impact Solution

Vasudha Saraogi <vasudha@northstarimpactsolution.com>
to me, Admin, Vamsi

Tue, Oct 1, 2024, 12:09 AM

Dear Anurag,

I hope you are doing well.

We are pleased to inform you that you have been selected for the internship position with the tech team at NorthStar Impact Solution. Your skills and effort impressed us, and we are excited to have you join our team.

This is a **remote opportunity**, and the internship is a four-month program starting on October 7, 2024, with the **first month being unpaid** and the **subsequent 3 months at a monthly stipend of INR 6,000**. Additionally, future probation-based permanent employment with us is possible based on your performance during the internship.

We need additional details from you before we start the onboarding process. Please provide the following documents and information:
1. A copy of Aadhar Card and PAN Card
2. Bank Details
3. Your current contact information (address, phone number).
4. Updated Resume

Kindly email the requested documents to admin@northstarimpactsolution.com by **4th October 2024, if you choose to accept this internship.** Once you accept the internship, we will provide you with a formal internship contract and NDA to proceed with the onboarding process.

NetEdge

14th February 2025

Mr. Ayush Dubey
24, Pratap Khand
Jhilmil Colony, Shahdara
New Delhi – 110 095.

Dear Mr. Dubey,

With reference to the interview conducted recently at C – 56/39, Sector – 62, NOIDA – 201 301, we are pleased to offer you a position as an **Intern – AI Programming** in our organization. Details regarding stipend and other benefits are given in the Annexure.

Your internship will be subject to the rules and regulations of the organization as prevailing from time to time. NetEdge Computing Solutions Pvt. Ltd. will provide you with a challenging and rewarding career ensuring job satisfaction and ample opportunities for career development.

You are requested to report to the undersigned for duty on or before 17th February 2025 at the following address:

C – 56/39, Sector – 62, NOIDA – 201 301.

On the date of your reporting, please bring the following documents in original (for verification) and photocopies which you need to submit.

- Educational Certificates
- Two passport size photographs
- Date of Birth Certificate

Please return the duplicate copy of this letter signed by you as an acceptance of the Offer.

Wishing you all the best and welcoming you to our organization.

Yours sincerely,

Dr. Manoj Saxena
Chief Executive Officer

NETEDGE COMPUTING SOLUTIONS PVT. LTD.

Infosys
Navigate your next

IRD/FINALSEM/TRG/2025/1008427995

January 8, 2025

Palak Garg,

Dear Palak,

This is in reference to the Internship Program ("**Program**" hereinafter) offered to you by Infosys Limited ("**Infosys**" hereinafter), a corporation incorporated and existing under the laws of India and having its primary place of business at Electronics City, Hosur Road, Bangalore 560 100, India, in accordance with the terms of the Internship Agreement executed between you and Infosys on [date]. The details of the Program are as follows:

1. Program Date : **January 27, 2025**
2. Duration of the program : **18 Weeks**
3. Mode of Internship : **Physical at the Company's premises at Mysore**

You will be entitled to get a **Stipend of Rs. 10,000/- (Rupees Ten Thousand Only) per month** during the Program. You would also be covered under the Personal Accident Insurance and Hospitalization Insurance Policy of Infosys for the duration of your Program. If you require additional coverage, you would need to obtain this in your personal capacity.

For the duration of the Program, you will be required to adhere to certain policies / practices that are applicable to employees of Infosys, including but not limited to the Intern's obligations as per the Internship Agreement. Additionally, you may be required to sign agreements with Infosys, at the sole discretion of Infosys, relating to protection of Infosys's confidential and proprietary information. Infosys disclaims all liability and responsibility for acts and/or omissions by you that are in violation of any of the applicable laws, governmental orders, guidelines, rules, ordinances, or regulations that are in force at the applicable time

Please note that the Internship Agreement may be terminated by Infosys in accordance with Clause 6 of the Internship Agreement.

Please sign this letter, the Internship Agreement and the undertakings, attached herewith and send across a scanned copy of the same to Infosys_LPCampus@infosys.com before 24th January 2025. You are also required to send the signed hard copy of this letter, the Internship Agreement, and the attached undertakings to Infosys's office at Electronics City, Hosur Road, Bangalore 560 100, India before 27th January 2025.

You are requested to read and retain the instructions attached to this letter.

If there are any changes to the terms and conditions mentioned above, we will revert with another letter as soon as possible.

Thanking you,

Yours sincerely,

Varadharaj V
SVP and Head Talent Acquisition - Infosys Limited

No.
Government of India
Ministry of Earth Sciences
India Meteorology Department
Mausam Bhawan, Lodhi Road
New Delhi - 110 003

Dated: 29th March 2024

CERTIFICATE

This is to certify that the student Kanishak enrolment no. 02315611921 of ADGIPS , Bachelors of Technology in AI & Data Science batch of 2021-25 , has successfully completed final semester internship project titled Cyclone Track Prediction Using Deep Learning Techniques: MambaNet & MetMamba in our organization NWP Division, India Meteorological Department, New Delhi under my guidance using analysis, during the period 10th February 2024 to 10th March 2025 . He has completed the assigned project well within the given time frame. He is sincere, hardworking and his conduct during the period was commendable.

STUDENT INTERN:
Kanishak Tehwatia

GUIDE:
DR. D.R. PATTANAIK
Scientist-F, Head (NWP)
IMD, New Delhi

EMPLOYMENT CONTRACT

THIS EMPLOYMENT CONTRACT dated this 23th day of December, 2024

BETWEEN:

M/s Synlex Technologies Pvt. Ltd. (Through its Authorized Representative Mr. Yatharth Garg), Having Registered Office At: A-1 DSIDC Complex Nangloi -110041
(the "Employer")
OF THE FIRST PART
- AND -
Mr. Pratham Bisht, S/o Mr. Sanjay Singh Bisht, Resident of 1-254, Jahagir puri - 110033
(the "Employee")
OF THE SECOND PART

BACKGROUND:

A. The Employer is of the opinion that the Employee has the necessary qualifications, experience and abilities to assist and benefit the Employer in its business.
B. The Employer desires to employ the Employee and the Employee has agreed to accept and enter such employment upon the terms and conditions set out in this Agreement.

IN CONSIDERATION OF the matters described above and of the mutual benefits and obligations set forth in this Agreement, the receipt and sufficiency of which consideration is hereby acknowledged, the parties to this Agreement agree as follows:

1. **Commencement Date and Term**
   i. The Employee will commence permanent full-time employment with the Employer on the **23th day of December, 2024 (the "Commencement Date").**
   ii. The Employment Contract will end on **23th day of February, 2025 (the "End Date")** with an option to Extend the contract on the End date
2. **Job Title and Description**
   i. The Employer agrees to employ the Employee as a Machine Learning Intern.
   ii. The Employee agrees to be employed on the terms and conditions set out in this Agreement. The Employee agrees to be subject to the general supervision of and act pursuant to the orders, advice and direction of the Employer.
   iii. The Employee will perform any and all duties that are reasonable and that are customarily performed by a person holding a similar position in the industry or business of the Employer.

For Synlex Technologies Pvt. Ltd.

Director

Godrej

3rd July 2024

Mr. Tanish Jain,
Mumbai

Dear Tanish,

Analytics Intern with Godrej Capital Limited ("Company")

We have pleasure in admitting you in our organization as an **Analytics Intern** subject to the following terms and conditions:

1) The Company may avail your services for any of its Affiliates, namely, Godrej Housing Finance Limited or Godrej Finance Limited.
   a. You will undergo internship training effective **1st August 2024 to 1st October 2024**. The nature of this association may be virtual/hybrid/physical as may be decided by the Company from time to time. You shall be expected to follow such rules of physical attendance as may be applicable to designated locations.
   b. As you are aware, this will be an **unpaid** internship stint with us.
2) You will observe a **five-day week** and **working hours** and holidays as notified for our Head Office. Whenever necessary, you will also be required to work on holidays, as may be directed by the project guide without any additional compensation.
3) You will undergo training without in any way causing inconvenience or disturbance a. to any member of our Staff in his / her normal discharge of duties.
4) This internship shall not be construed as employment or an offer of employment with the Company or any of its Affiliate.
5) The Company or its Affiliate will **not** be liable for payment of any compensation whatsoever to you for any injury sustained whilst you are engaged with us due to any mishap, accident or injury and you agree to indemnify the company against any claim in respect of any mishap, accident or injury caused to you.
6) As an Intern, you will have access to confidential information in respect of the Company or any Associate / Affiliated Company / Group Company. Unless specifically authorized by the Company or the relevant Affiliated Company, you shall not, during your internship/training with the Company/ Affiliate Company or afterwards:
   a) disclose confidential information to any third party or
   b) use this information for your own purposes or for any purposes other than those of the Company, or
   c) cause any unauthorized disclosure of the said confidential information due to negligence on your part.

Godrej Capital Limited (formerly Pyxis Holdings Limited / Pyxis Holdings Private Limited) | Registered Office: Godrej One, Pirojshanagar, Eastern Express Highway, Vikhroli (East), Mumbai, 400079, Maharashtra
CIN: U67100MH2019PLC330262 | Website: www.godrejcapital.com | Tel: 022 – 68810555
Email ID: customercare@godrejcapital.com | Fax: 022-25188066

spyne

Strictly Confidential

Date: 17th October 2024

Dear Shivay

We are pleased to offer you a **6 months** internship at Eventila Technologies Pvt Ltd ("The Registered Company") as **Intern - Data Analyst** for Gurgaon location.

Unless we mutually agree otherwise in writing, your internship start date would be on **21st October 2024.**

During this period, you shall be paid a stipend amount of **INR 20,000/-** per month during your course of the Internship.

All terms and conditions of your Internship, including the code of conduct, will be in accordance with the Company's policies and procedures and the Internship Agreement.

1. During the internship either party can give notice of 15 days to annul the association. The Company reserves the right to terminate your service at any time without notice should you be found guilty of misdemeanor, misconduct, negligence or any breach of the terms and conditions of this agreement.
2. As a member of the **Data Team,** you may work on confidential and/ or proprietary information related to the operations, products and services of Spyne and its clients. To protect the interests of both Company and its clients, you are required to read and sign a NDA prior to the commencement of your Internship.
3. You will abide by the rules and regulations of the Company enforced from time to time. In the event of any violation, the required disciplinary action shall be initiated.
4. Your appointment is subject to the satisfactory clearance based on reference checks and secrecy / service agreements that you may have executed, which could have a bearing on your engagement with us.
5. This offer letter is based on the information furnished by you during the course of your interview process with us. If, at any time in future, any of this information is incorrect or any relevant information is found to be withheld, then your internship is liable to be terminated without notice.
6. The company may terminate your internship for cause with immediate effect at any time.
7. Any disputes arising out of this letter shall be governed by and construed in accordance with the laws of the Government of India.

Eventila Technologies Private Limited
CIN: U72100DL2015PTC281740
Registered office: Flat No. D-2, 3rd Floor, Metro Green Apartment Plot Number 10638, Ward 8, Mehrauli, New Delhi- 110030
Correspondence Address: 801-812F, IMD Megapolis, Sec 48, Gurugram, Haryana 122018
Phone: +91-8644 8644 61 | Email: hr@spyne.ai | Web: www.spyne.ai

techolution India Pvt Ltd
Phoenix Primea, Tower A, 1st Floor, Road Number 2,
Financial District, Nanakram Guda, Hyderabad, Telangana 500032
Contact details : +91 9100098968 | www.techolution.com | hr@techolution.com
CIN - U74120TG2015PTC101937

PRIVATE & CONFIDENTIAL

INTERNSHIP OFFER LETTER

Date: August 13, 2024

Dear Jatin Singh ,

Congratulations! You are hereby officially notified of our desire to offer you an internship with Techolution. The title and terms of the position being offered herein are described below. This offer, if signed by you, shall be considered as an agreement ("Agreement") between yourself and Techolution.

We are delighted to offer you an Internship position as an **AI Intern** at Techolution commencing date **August 14, 2024.** For the purpose of this Agreement, you will be referred to as "Intern".

1. Effective Date: Your internship will begin on **August 14, 2024** and end on **August 14, 2025.** The duration of the internship can be adjusted based on mutual agreement.
2. Time Commitment: You are committing to **45 hours per week.** You will be eligible for 1.5 Personal/Casual leaves per month. These leaves will be subject to the manager's approval. Should you need time off, you are required to let the team know as far in advance as possible on the details of your planned leaves. Any additional leave will result in Loss of Pay.
3. **Salary/Stipend:** INR 30,000 per month
4. **Work Location:** Hyderabad
5. **Reporting Manager:** Rishabh Sonal
6. **Intern Code of Conduct:**
   a. Intern will maintain a regular internship schedule determined by the Intern and their Supervisor.
   b. Intern will demonstrate honesty, punctuality, professionalism, a cooperative attitude, appropriate business attire, and a willingness to learn.
   c. Under no circumstances will the Intern leave the internship without first conferring with her/his supervisor.
7. **Rules of Internship:** The Intern is required to observe, follow and abide by all Techolution rules and regulations identified in this Agreement or communicated to Intern by his or her Techolution hiring manager. If Intern has any questions regarding any regulation, including but not limited to consideration of a potential conflict of interest or adherence to Techolution's business and ethical code of conduct, Intern is required to immediately notify his or her Techolution hiring manager. Deliberate or inadvertent breach of any rule or provision, as stated in this paragraph, is

Academic Excellence through Projects in AI & DS

"Projects by B.Tech AI & DS students showcased brilliance in AI models, data analysis, and innovation. Their efforts reflect academic excellence, problem-solving skills, and vision to contribute meaningfully to society."

"AI is not just another technology, it's the next revolution." – Sundar Pichai

AI Data Science Tutor

By Vishal Kumar & Akshat Kumar

The AI Data Science Tutor project aims to create an intelligent learning assistant that simplifies complex concepts through interactive explanations, real-time guidance, and personalized support. Designd to aid students and professionals, it showcases innovation, problem-solving, and practical application of AI in education.

AI Healthcare Chatbot

By Aman Gupta

The AI Healthcare Chatbot is designed to provide instant medical assistance, symptom analysis, and healthcare guidance. Leveraging natural language processing, it ensures accessibility, quick responses, and support, showcasing AI's role in improving patient care.

AyurAI

By Raghav Singh & Ritesh Kumar Singh

AyurAI is an AI-powered healthcare assistant inspired by Ayurveda. It provides personalized wellness recommendations, herbal remedies, and preventive healthcare guidance, combining traditional wisdom with modern technology to promote holistic health and well-being.

Precision Healing: Revolutionizing Physiotherapy Care

By Mayank Bhardwaj

The *Precision Healing* project leverages the power of Artificial Intelligence and Data Science to transform the way physiotherapy care is delivered. By analyzing patient data, tracking recovery patterns, and using predictive models, susstem more accurate diagnosis aned faster recovery. Patients can track their progress digitally, while physiotherapists gain valuable analytics to design effective rehabilitation strategies.

Phishing Website Detector

By Akshat Kumar

The Phishing Website Detector project leverages the power of Artificial Intelligence and Data Science to safeguard users' from online fraud. With roise of cyber threats, phishing attacks have become one of the most common ways of stealing sensitive data such as passwords, banking information, an personal credentials.
This system analyzes website URLs, page structures, and hidden patterns using machine learning algorithms to identify fraudulent websites in real time. By classifying suspicious domains and alerting users instantly,

Object Detection Using Deep Learning

Divya Prakash and Adarsh

The Object Detection Using Deep Learning project focuses on the utilization of deep learning techniques to identify and locate objects within digital images and videos. The system employs convolutional neural networks (CNNs) that are adept at recognizing patterns and features in visual data. By training the model on large datasets, the system can detect and classify objects such as pedestrians, vehicles, and everyday items with high accuracy. This project demonstrates the power of AI in visual recognition tasks, enabling efficient and accurate object detection for various

NPC Generation through Metahuman

By Ashutosh Dhal

The NPC Generation through Metahuman project explores the use of AI-driven character creation technologies to design highly realistic and interactive non-playable characters (NPCs) for gaming and virtual environments. This system analyzes website URLs. page structures, and hidden patterns using machine learning algorithms to identify fraudulent websites in real time. By cnose more accurate diagnosis and alerting users instantly, it acts as a digital shield against cybercrime.

Designed to enhance online safey tle Phishing Website Detector highlights how AI can bring innovation, precison and efficiency into physiotherapy, making timespant smarter, more accessıue, simulations and beyond.

Lane Detection for Autonomous Vehicles

By Ayushmaan Kamboj, Gaurav Kapoor & Sankalp Singh Rawat

The Lane Detection for Autonomous Vehicles project focuses on building an AI-powered vision system that enables self-driving cars to accurately detect and follow road lanes in real time. By using deep learning algorithms and computer vision techniques, the system can identify lane markings under varying conditions such as poor lighting, curved roads, and weather disturbances. This innovation plays a critical role in ensuring safe navigation and collision avoidance for autonomous vehicles. It not only improves driving precision but also helps in developing intelligent transport systems that minimize human error. Designed with the future of mobility

Face Expressions Identifier for Vehicles

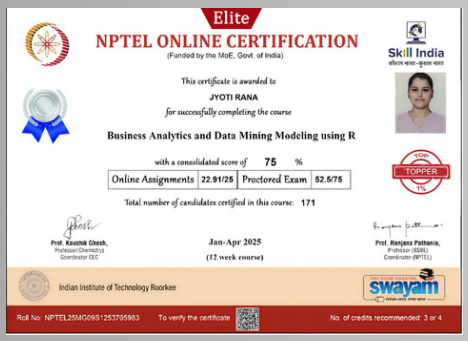
By Harsh Pandey & MD Shazeed

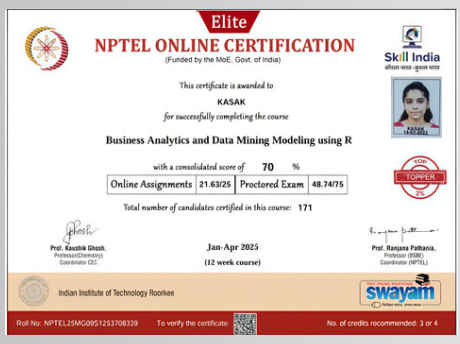
The Face Expressions Identifier for Vehicles project leverages artificial intelligence and deep learning to monitor drivers' facial expressions in real time. The system is designed to detect signs of fatigue, distraction, or stress, ensuring enhanced road safety and reducing the risk of accidents.

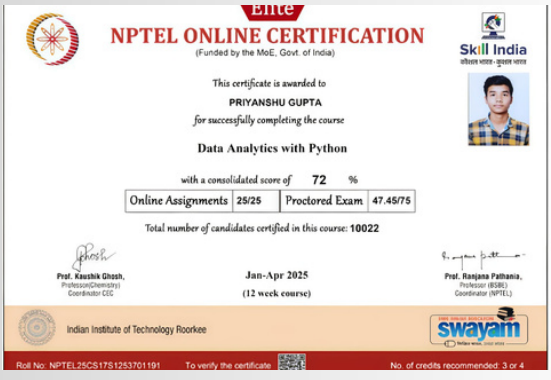
By analyzing subtie facial cues, the project introduces a proactive safety mechanism that can alert drivers or activate preventive measures when necessary. It represents a step towards intelligent in-vehicle monitoring systems, combining AI, human behavior analysis, and transportation safety.

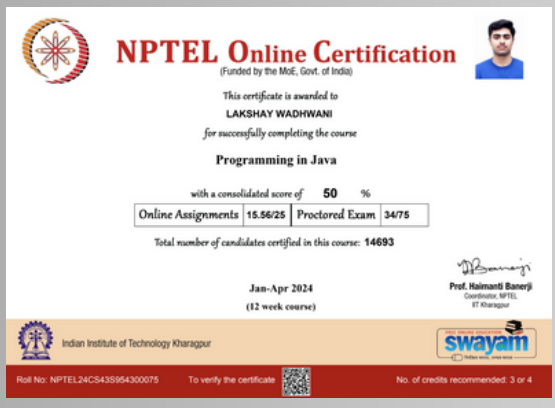
This innovation not only showcases the power of AI in real-world problem solving but also

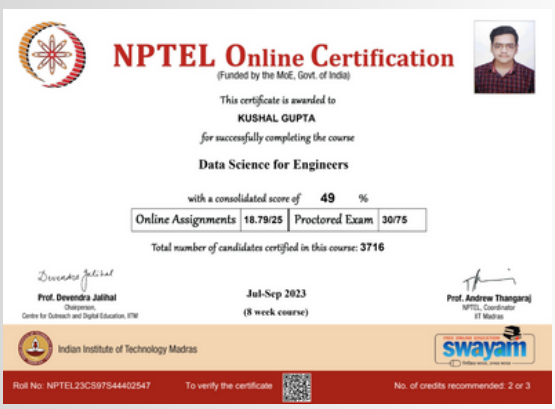
SWAYAM NPTEL CERTIFICATIONS











FACULTIES ACHIEVMENTS

Prof. (Dr.) Archana Kumar

- 8 Research Papers
- 1 Patent
- 7 FDPs
- NPTEL Certification on **Big Data Computing.**
- NPTEL Certification on **Affective Computing.**

Mr. Ritesh Kumar

- 6 Research Papers
- NPTEL certification in **Data science using python**
- NPTEL certification in **Data Structure using python**
- NPTEL certification in **Introduction to Machine Learning**
- Co-ordinator for fdp " **Research methodology for engineering, science and management"**
- 10 FDPs

Dr. Yatu Rani

- 1 Research Paper
- 1 Patent
- 3 FDPs
- 1 Book

Ms. Dimpy

- 3 Research Papers
- 1 Patent
- 6 FDPs

Mr. Ankur Jain

- 2 Research Papers
- 5 FDPs

Ms. Meenu

- 2 Research Papers
- 6 FDPs

Ms. Manisha Sharma

2 FDPs

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