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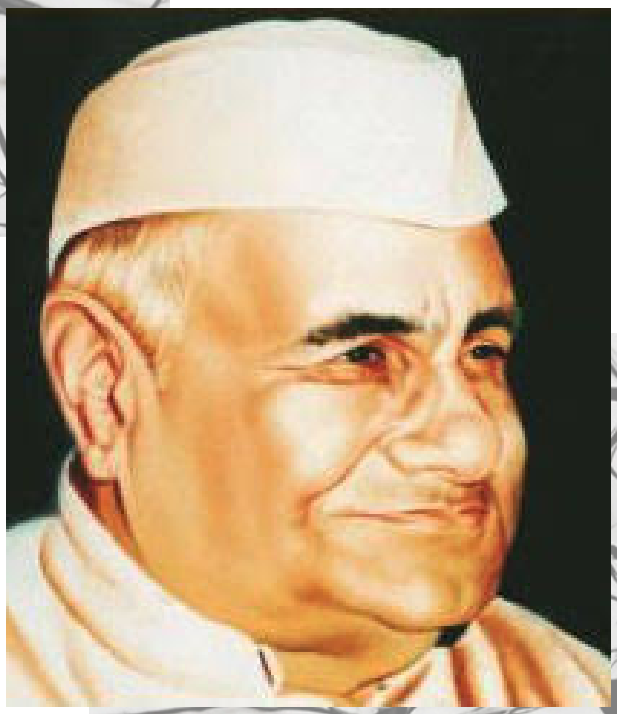
THE WORLD OF

AR/VR

ml maven

DEPARTMENTAL MAGAZINE

Founder's Note



Late Babu Banarasi Das Ji
(1912-1985)
Freedom Fighter
Ex-Chief Minister of U.P.

"TO PROVIDE AN OPEN OPPORTUNITY TO THE YOUNG GENERATION FOR EVOLVING THEIR CORE COMPETENCIES FOR BUILDING UP THEIR CAREER AS WORLD CLASS PROFESSIONALS WITH BROAD BASED FOUNDATION, IN-DEPTH KNOWLEDGE & VERSATILE PERSONALITY TO MEET THE CHALLENGES OF GLOBAL ECONOMY."

A TRIBUTE TO Dr. Akhilesh Das Gupta

OUR REVERED & HON'BLE FOUNDER CHAIRMAN SIR.

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.

Mrs. Alka Das Gupta

Hon'ble Chairperson
BBD Group

Innovation requires passionate explorers who give proper transformation at the workplace. With an ever-changing global scenario, the key to success is responding to the complex and rapidly changing issues in the world of Artificial Intelligence. The Department of Artificial Intelligence & Machine Learning of ADGIPS is always making efforts to justify these points. We impart an education that is based on consciousness and we rear a breed of young minds that are bustling with selfconfidence, motivation, and ever-ready to take up challenges. The campus, sports, and academic facilities all bear testimony to this effort. In order to promote an internationally acceptable education, our key focus has been on overall development.

Proficiency in computing technology has become essential for modern-day managers, business leaders, entrepreneurs, and other professionals. It is a welcome development. I look forward to ML MAVEN 2024 setting a higher pedestal. I wish ML MAVEN editorial team a grand success!

Mr. Viraj Sagar Das

Hon'ble President
BBD Group

I feel so delighted to find that the path of creativity and innovation is consistently followed by the Department of Artificial Intelligence & Machine Learning. It always encourages its students to actively participate and compete in various competitions and events to show their abilities towards the new platforms of technology. A great part of the magazine is the fact that it brings us a bouquet of topics which are of utmost relevance and interest to all. It is a great pleasure for me to get to know all the activities and achievements of the Department of Artificial Intelligence & Machine Learning of Dr. Akhilesh Das Gupta Institute of Professional Studies in the form of such an interactive read.

I convey my best wishes for the success of ML MAVEN 2024.

Prof. (Dr.) Sanjay Kumar

DIRECTOR GENERAL, ADGIPS

In his book On Becoming a Leader, Warren Bennis wrote, "No leader sets out to be a leader. People set out to live their lives, expressing themselves fully. When that expression is of value, they become leaders. So the point is not to become a leader. The point is to become yourself, to use yourself completely – all your skills, gifts and energies – in order to make your vision manifest. You must withhold nothing. You, must, in sum, become the person you started out to be, and to enjoy the process of becoming." We at Dr. Akhilesh Das Gupta Institute of Professional Studies believe in helping students to manifest their vision completely. How do we do this? We offer a rigorous education program rooted in all forms of practice, coupled with a vast array of electives and opportunities that come from our position of being affiliated to a major university.

We give you the tools to continue learning and growing long after you leave our doors; we create opportunities for internships and experiences that broaden your horizons.I take this opportunity to express the fact that every effort is made to improve the existing best services to bring out the best for the welfare of our institution and the growth of our students.

Prof. (Dr.) Niranjan Bhattacharya

DIRECTOR , ADGIPS

Prof(Dr).Niranjan Bhattacharyya is BE, MTech and PhD in Electronics & Communication Engineering and MBA in Finance. He started his professional career in Merchant Navy and worked for large corporations like Godrej as Branch Manager, Tech Pacific Holding as country head and as CEO of 1000 crore conglomerate in IT solution, Multiplex Corporation Ltd. After serving Industry, he joined academia as a Lecturer in Delhi College of Engineering and served DCE/ DTU for over six years and then in GGSIPU affiliated college as Professor and HOD for 11 years. In ADGIPS he started as Professor and HOD of ECE and Director-IQAC from 2021 and promoted as Director of ADGIPS sinxe 1st January,2024. He has over 100 publications in International journals and authored one book which fetched him an award from Hon'ble President of India.

He is invited to speak at International seminars and conferences in India and abroad, including USA and Canada.

Here at ADGIPS, we provide the best undergraduate and post gradute education to the students with full enthusiam.

Moreover, I convey my best wishes to our Artificial Intelligence and Machine Learning Department on their Departmental Magazine “ML MAVEN 2024”.

Prof. (Dr.) Ankit Verma

HEAD OF DEPARTMENT, AI & ML, ADGIPS

Once an author very rightly said that "Listen to the people who love you. Believe that they are worth living for even when you don't believe it. The Educational System of ADGIPS is not limited to a defined curriculum only but to develop and cheer all the spheres of people especially students associated with.

ADGITM's Department of Artificial Intelligence & Machine Learning always works in the direction of enhancement of Entrepreneurial abilities among the students and helps them in working on those relevant projects which can act as a landmark for our developing society. Department of Artificial Intelligence & Machine Learning is a cluster of some of the great scientific research fields which when together work upon gives wings to dreams to touch the sky of reality.

Department of Artificial Intelligence & Machine Learning always works towards developing engineers with a rich set of technical, managerial, ethical and social skills so that they can contribute to nation building.

VISION AND MISSION

"To produce socially responsible technocrats, researchers and entrepreneurs in Artificial Intelligence and Machine Learning through eminence in education and research.

VISION

"M1.
To produce socially responsible technocrats, researchers and entrepreneurs in Artificial Intelligence and Machine Learning through eminence in education and research.

M2.
To collaborate with industry to exhilarate novel research and development in Artificial Intelligence & Machine Learning.

M3.
To transform students into innovative skilled professionals empowered with knowledge, skills, values, and confidence to cater the global needs of the society.

MISSION

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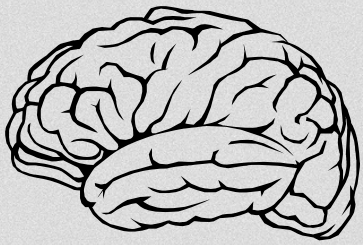
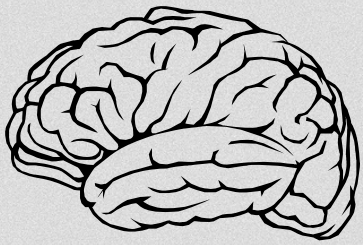


DEPARTMENT AT A GLANCE

The Department of Artificial Intelligence and Machine Learning is established in the year 2021, offers an undergraduate programme B. Tech. under the affiliation of GGSIPU, New Delhi.

ADGITM, thrives to impart an effective technical education by means of experiential learning and develop concrete infrastructure with efficient faculty and dynamic student community. AI & ML insists on implementing Outcome Based Education (OBE) throughout the tenure of under graduation by means of getting university ranks, higher placement records. To emphasize on lifelong learning and applying knowledge on solving real work problems, department conduct various technical events like hackathons, coding competitions, training programs, workshops and seminars.

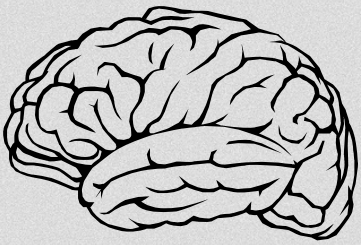


STUDENT'S ACHEIVEMENT

- Deepti Prasad (2021-2025), Lakshay Singhal (2021-25) and Archit Sharma (2021-25) secured first, second and third positions in the Tech art-making competition respectively.

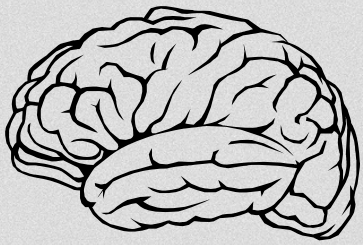
- Gaurav Balodi, Nitin Rawat, Dev Yadav and Rishabh Jain(2021-25) secured first position in SOLUTION SPRINT HACKATHON (a part of three-day techno-cultural event-UTKARSH).

- Kashish Arora, Rishabh Giri and Yash Raj Singh (2021-25) secured first position in TECHNOPEDIA 2.0.



STUDENT'S ACHEIVEMENT

- Yukti Batra, Rashi Gupta, Izra Zubair and Priyanka Gupta secured the title of "BEST ALL GIRLS TEAM" at INNOHACKS 2.0 organised by KIET GROUP OF INSTITUTIONS.
- Manya Rawat secured the first position at Glitter Glance at Engifest'23 organised by Delhi Technological University(DTU).
- Raag Seth secured the first position at Aid-O-Eights(Rap Competition) organised by ALFAAZ at Utkarsh 2023
- Raag Seth secured third position at Sargam-Ensemble organised by IIT Roorkee Cultural Fest



STUDENT'S ACHEIVEMENT

- Rashi Gupta, Sachin Kumar Ray, Lakshay Singhal, Gursharan Singh, Rahul Sharma and Ansh Gupta participated in Smart India Hackathon.
- Manya Rawat secured the first position at MAIT AND IILM in makeup competition and second position with Saptorishi Chatterjee at GIBS.
- Rashi Gupta, Sachin Kumar Ray, Lakshay Singhal, Gursharan Singh, Rahul Sharma and Ansh Gupta secured first position in GDSC ADGIPS' <HACK&CHILL/>.

KRITRIM DHI

THE OFFICIAL AI & ML SOCIETY OF ADGITM

KRITRIM DHI

Welcome to Kritrim Dhi - an AI & ML Society dedicated to exploring the limitless potential of Artificial Intelligence and Machine Learning! With our four dynamic departments, Tech, R&D, Events, and Management, along with our Social Media team, we strive to create an inclusive community that spreads awareness about the incredible capabilities of AI & ML At Kritrim Dhi, our motive is to ignite curiosity and inspire individuals from all walks of life to explore the fascinating world of AI & ML. Join us on this exhilarating journey as we unlock the doors to endless possibilities and empower individuals to harness the transformative power of Artificial Intelligence and Machine Learning. Together, let's shape the future!

EVENTS HELD TILL DATE

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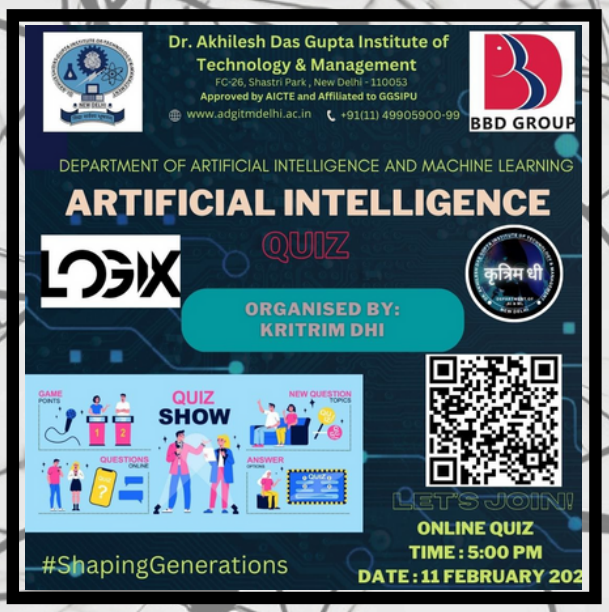

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On the occasion of TechnoUtsav 3.0 and the very begining of AIUtsav/Atman (Thinking Power in Machines) on the 12th October, Department of Artificial Intelligence and Machine Learning organized a Seminar cum Technical Quiz event "Technopedia 3.0". The event commensed with participants from diverse branches proving their knowledge on differents spheres through a number of questions targeted to them. In the end goodies from our event partner Coding Blocks were awarded to the top three winners of the event.

EVENTS HELD TILL DATE

Glimpse of Seminar by the Department of Artificial Intelligence and Machine Learning in association with Jamboree conducted on Sep 21, 2023

TOPIC IN HIGHLIGHT

BY DEEPTI PRASAD

Revolutioning Drug Discovery

Artificial intelligence has brought about a paradigm shift in the field of drug discovery and development, and neural networks have emerged as powerful technologies at the vanguard of this transformation. The use of neural networks and other deep learning techniques has sped up the process of drug discovery in recent years, turning it from a tedious and time-consuming endeavour into one that is more focused and efficient. Finding possible therapeutic molecules, putting them through rigorous testing to ensure their safety and efficacy, and finally getting their approval for clinical usage are all part of the complex and varied process of drug discovery. This technique has historically been associated with large expenses, protracted schedules, and a high failure rate. These days, neural networks can handle these problems by utilising the capabilities of predictive modelling, pattern recognition, and data analytics.

Virtual screening is one of the main uses of neural networks in drug development. In order to anticipate possible drug candidates, neural networks may scan large datasets that comprise biological activities, chemical structures, and other pertinent information. During the early phases of drug discovery, this computational method greatly accelerates the identification of compounds with the desired properties, saving time and money.

Developing effective therapies requires an understanding of the complex interactions that exist between medications and their molecular targets. Because they can recognize intricate patterns in a wide range of biological data, neural networks are highly effective at forecasting drug-target interactions. This feature expedites the drug development process by improving the effectiveness of target identification and validation.

By anticipating potential side effects, identifying patient demographics who are likely to respond favourably to therapy, and assisting in the design of more specialised and individualised clinical trials, neural networks help to optimise preclinical and clinical trials. This shortens the time needed for clinical development and raises the possibility of positive results.

In de novo drug design, neural networks are used more and more to create completely novel chemical structures with desired characteristics. By using this revolutionary strategy, researchers can potentially find therapeutic candidates that would have otherwise gone unnoticed by existing methods by exploring novel chemical regions.

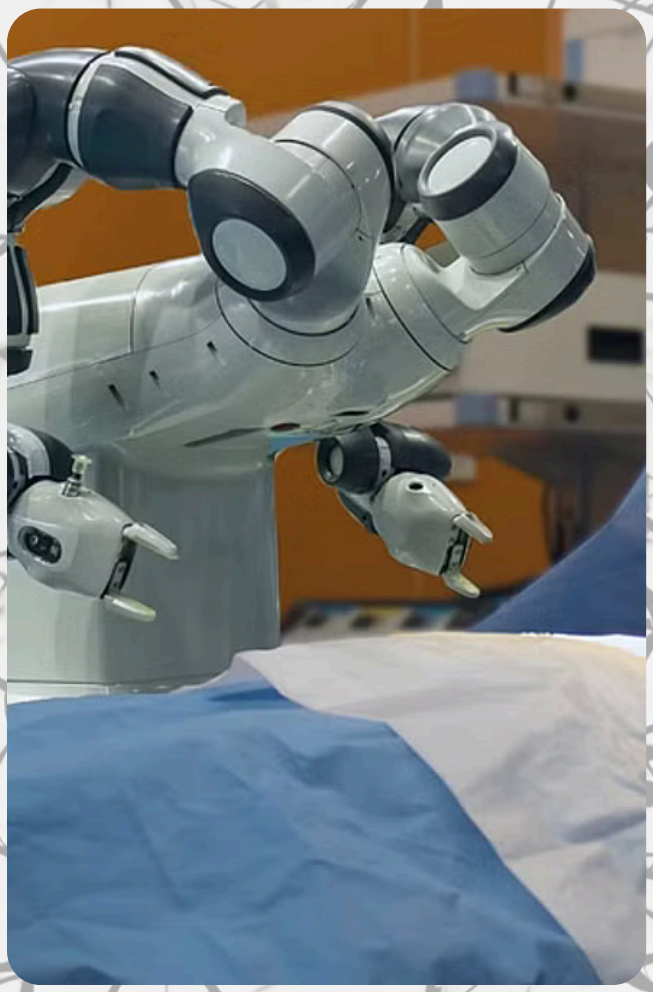
Even though neural networks are revolutionising the drug development process, issues including ethical concerns, interpretability of models, and data quality still need to be resolved. To overcome these obstacles, explainable AI approaches must be incorporated, and data scientists and domain specialists must continue to work together.

With the ongoing development of neural networks, the field of drug discovery has a bright future. We should expect a renaissance in the development of novel therapies as these technologies advance and are more smoothly incorporated into the drug development pipeline. This will ultimately improve patient outcomes and transform the healthcare industry. Digital change is occurring from laboratory bench to bedside, and neural networks are unquestionably at the forefront of this scientific advancement.

TOPIC IN HIGHLIGHT

BY ASTHA DWIVEDI

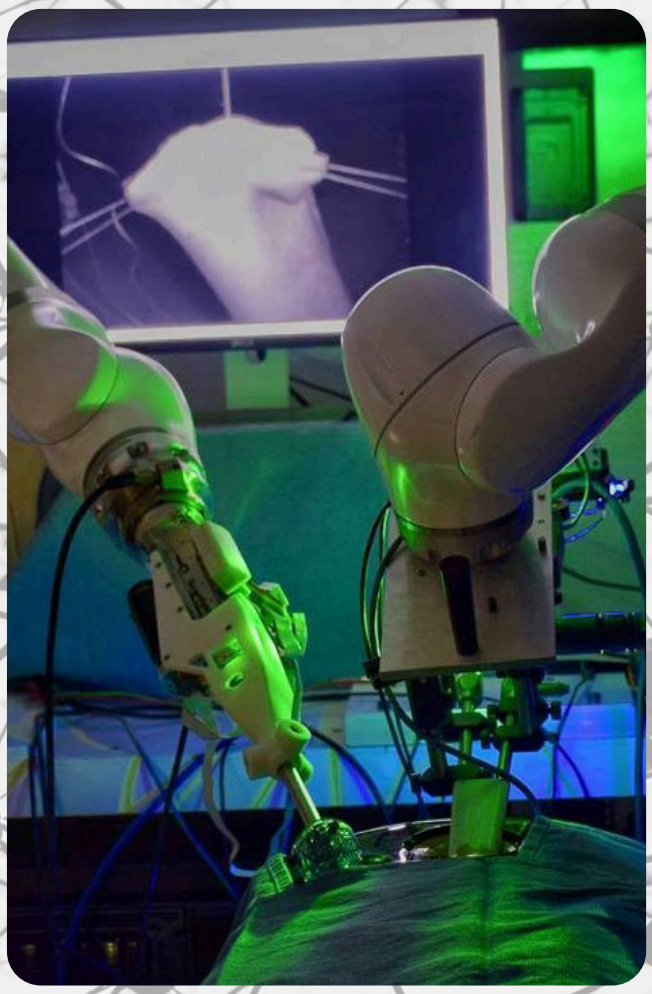
Revolutioning Surgery



In recent years, the field of surgery has witnessed a remarkable transformation with the emergence of robotics and surgical automation. These advanced technologies are revolutionizing traditional surgical practices, offering unprecedented precision, efficiency, and safety in a wide range of procedures. From minimally invasive surgeries to complex interventions, robotics is reshaping the landscape of modern medicine, ushering in a new era of surgical excellence. Robotic surgical systems, such as the da Vinci Surgical System, have emerged as the cornerstone of this technological revolution. These systems consist of robotic arms equipped with surgical instruments and a control console operated by a skilled surgeon. The surgeon manipulates hand controls at the console, which transmit precise movements to the robotic arms inside the patient's body.

It is designed to facilitate minimally invasive surgery across various specialties, including urology, gynecology, general surgery, and cardiothoracic surgery. This advanced technology enables surgeons to perform intricate maneuvers with enhanced dexterity and control, even in the most challenging surgical scenarios.One of the primary advantages of robotics in surgery is its ability to facilitate minimally invasive procedures. Unlike traditional open surgeries that require large incisions, robotic-assisted surgeries involve small incisions through which surgical instruments and a camera are inserted.

The robotic arms, guided by the surgeon's commands, navigate through these tiny openings with remarkable precision, reducing trauma to surrounding tissues and minimizing postoperative pain for patients. As a result, patients experience shorter hospital stays, faster recovery times, and improved outcomes compared to traditional surgery. Moreover, robotics in surgery offers ergonomic benefits for surgeons, addressing long-standing issues of physical strain and fatigue associated with conventional techniques. The control console provides surgeons with a comfortable seated position and a magnified 3D visualization of the surgical site, allowing for prolonged, intricate procedures with reduced risk of musculoskeletal injuries. This ergonomic design not only enhances surgeon comfort and safety but also contributes to the overall quality of patient care. Beyond its clinical applications, robotics in surgery is paving the way for innovation in teleoperation and remote surgery. With advancements in connectivity and communication technologies, surgeons can now perform procedures from remote locations, leveraging robotic systems to deliver surgical care to underserved areas or during emergencies.



This capability has profound implications for global healthcare, enabling access to specialized surgical expertise and interventions in remote or resource-limited settings. However, the integration of robotics into surgical practice is not without its challenges. The high cost of robotic surgical systems, coupled with the need for specialized training and infrastructure, presents barriers to widespread adoption. Moreover, concerns regarding patient safety, regulatory compliance, and ethical considerations must be carefully addressed to ensure the responsible and ethical use of robotics in surgery. In conclusion, Robotics and automation are revolutionizing surgery, offering new possibilities in healthcare. As technology advances, robots will play a key role in improving surgical care worldwide. This will lead to safer, more effective, and accessible surgery for patients.

Editorial Board

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Deepti Prasad

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