

JANUARY 2024 | ISSUE 01

FET SPOTLIGHT



FACULTY OF ENGINEERING AND TECHNOLOGY
JAMIA MILLIA ISLAMIA, NEW DELHI

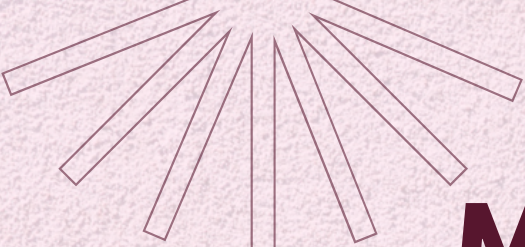


(Top to Bottom)

Row 1: Sadique Reyaz, Aamir Mumtaz, Dhafi Haris, Mohammad Ahmadullah Khan, Md Yusuf, Mohammad Owais, Ariz Khan, Razi Rehman

Row 2: Shohrat Jahan, Aa Fatima, Andleeb Shahzad, Mariya Usman, Kausar Parveen, Zoya Iqbal, Aaliyah Batool Husain, Mariam Khan

Row 3: Mohammad Zohair, Prof. Sabah Khan, Dr. Amber Khan, Prof Tanvir Ahmad, Prof Mini Shaji Thomas, Dr. Arunesh Kumar Singh, Dr. Satya Prakash Prasad, Shireen Khan



MESSAGE FROM THE DEAN

“

As we embark on this journey with the inaugural edition of the FET SPOTLIGHT, it gives me immense pleasure to extend my warmest greetings to you all! This newsletter marks a significant milestone in our journey, serving as a testament to our commitment to fostering communication, collaboration, and a sense of community within our Faculty. Inaugural editions hold a special significance, and this one is no exception. It not only signifies a new chapter in our Faculty's history but also underscores our dedication to transparency, information sharing, and celebrating the diverse talents and accomplishments within our community. In today's fast-paced world, effective communication is paramount. It serves as the lifeline of any organization, facilitating the exchange of ideas, information, and achievements.

Our newsletter aims to serve as a central platform for disseminating vital information, celebrating achievements, and fostering a sense of unity and pride among the Faculty, staff, Students and Alumni. In this inaugural edition, we have curated an array of exciting content to pique your interest and keep you informed. From paying tribute to our retired faculty members, whose contributions have laid the foundation for our success, to highlighting the various events held at the faculty level, we aim to provide a comprehensive snapshot of our vibrant community. Furthermore, we have acknowledged the remarkable achievements of our faculty members and students, showcasing their groundbreaking research, innovative projects, and other noteworthy accolades. Additionally, departmental events, placement statistics, extracurricular activities, and the ever-thriving student corner, featuring captivating paintings, poignant poems, and insightful articles, will all find their place in the pages of FET Spotlight. I encourage each and every one of you to actively engage with our newsletter, share your feedback, and contribute your ideas and achievements. Together, let us embark on this journey of communication, collaboration, and celebration, as we continue to uphold the esteemed legacy of the Faculty of Engineering and Technology, Jamia Millia Islamia. In closing, I extend my congratulations as well as heartfelt gratitude to all those who have contributed to the realization of this newsletter, especially, the Editorial team of Faculty members and students. It is through your unwavering support, dedication, and passion that we are able to bring this vision to fruition.



”

Prof Mini Shaji Thomas

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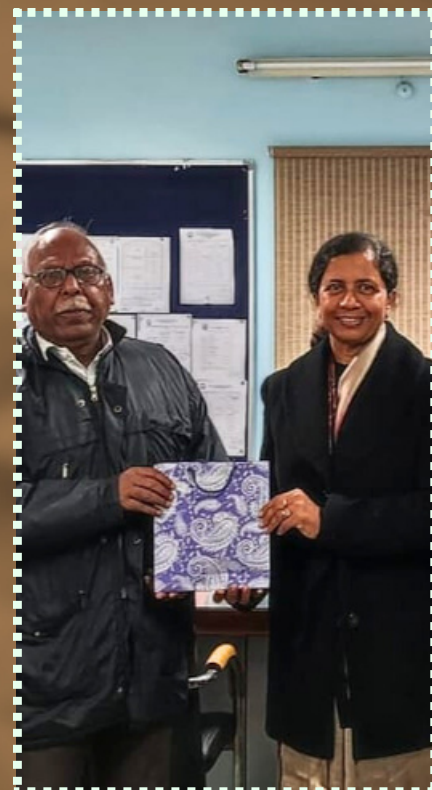
Meet the Team

CELEBRATING YEARS OF SERVICE

A TRIBUTE TO THE RETIRED FACULTY MEMBERS OF 2023



In recognition of their profound impact and unwavering dedication to excellence, we honor the retired faculty members of 2023 as they embark on a new chapter, knowing their legacy will continue to inspire generations to come.



Applied Sciences and Humanities

- Dr. Chaudhary Wali Mohammad
- Dr. Masood Alam
- Dr. Mohammad Idris Qureshi
- Dr. Weqar Ahmad Siddiqi
- Dr. Fehmeeda Khatoun

Mechanical Engineering

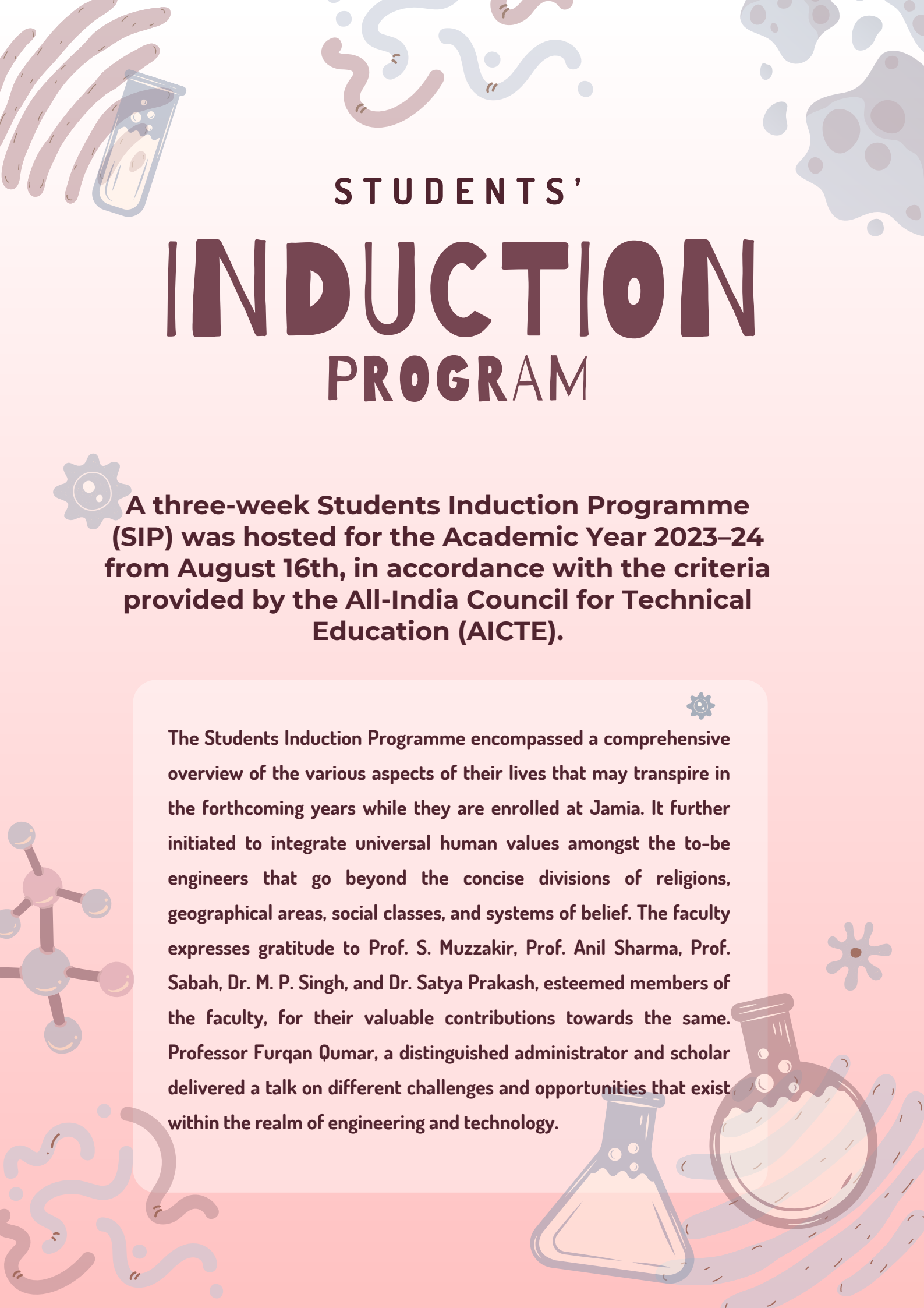
- Dr. Mohd. Muzaffarul Hasan
- Mrs. Halima Begum
- Dr. Aas Mohammad

Electrical Engineering

- Dr. Zaheeruddin

CELEBRATING THE HUES OF INDEPENDENCE





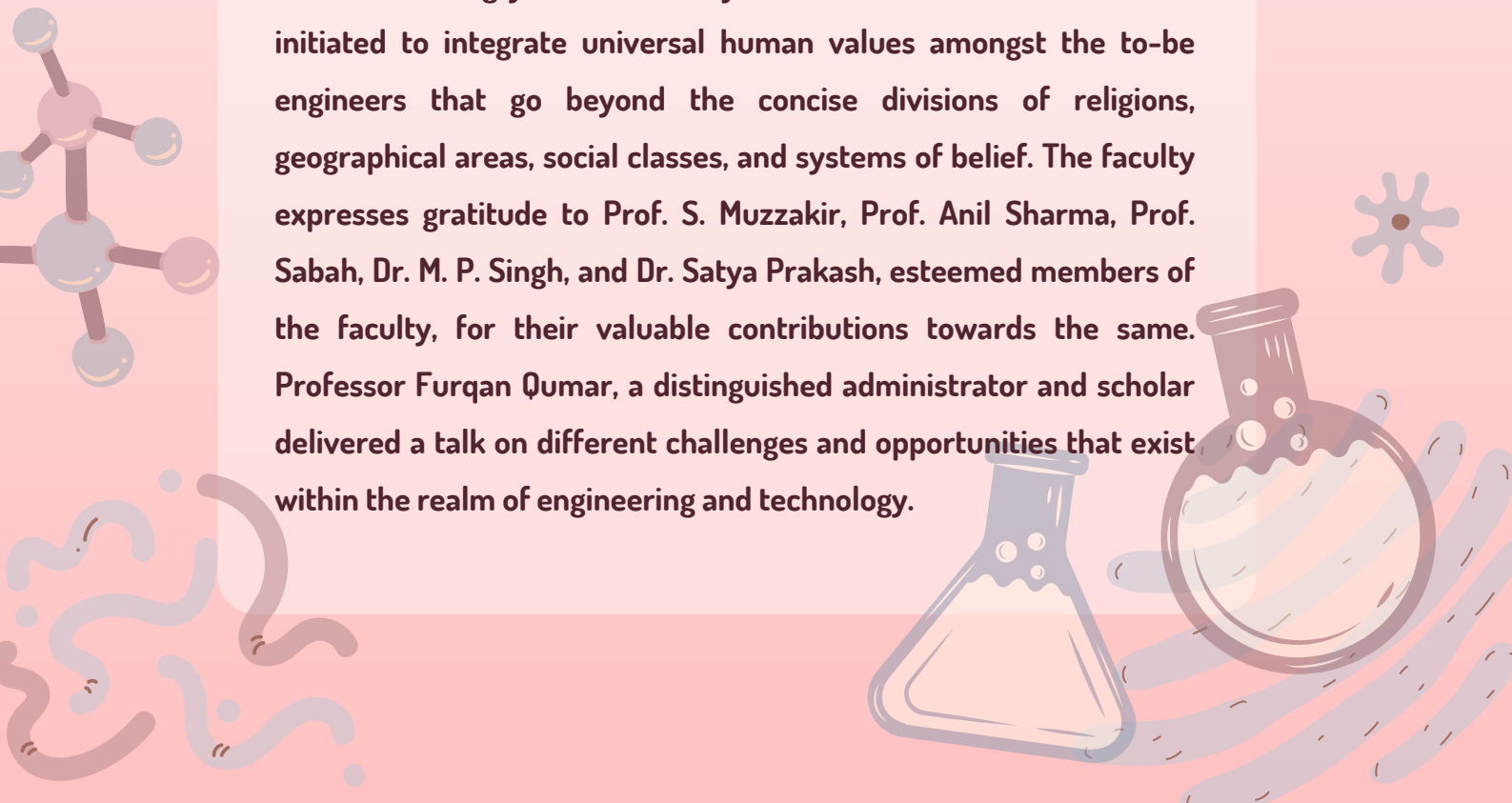
STUDENTS' INDUCTION PROGRAM



A three-week Students Induction Programme (SIP) was hosted for the Academic Year 2023–24 from August 16th, in accordance with the criteria provided by the All-India Council for Technical Education (AICTE).



The Students Induction Programme encompassed a comprehensive overview of the various aspects of their lives that may transpire in the forthcoming years while they are enrolled at Jamia. It further initiated to integrate universal human values amongst the to-be engineers that go beyond the concise divisions of religions, geographical areas, social classes, and systems of belief. The faculty expresses gratitude to Prof. S. Muzzakir, Prof. Anil Sharma, Prof. Sabah, Dr. M. P. Singh, and Dr. Satya Prakash, esteemed members of the faculty, for their valuable contributions towards the same. Professor Furqan Qumar, a distinguished administrator and scholar delivered a talk on different challenges and opportunities that exist within the realm of engineering and technology.





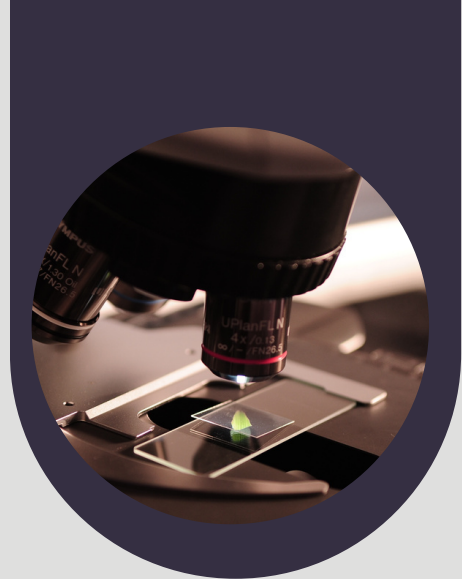
JAMIA MILLIA
ISLAMIA, FET

MILESTONES

EVEN THE LONGEST NIGHT
EVENTUALLY TURNS TO DAY



TWENTY-SIX JMI RESEARCHERS EARN COVERED SPOT IN STANFORD UNIVERSITY'S LIST OF TOP 2% SCIENTISTS



We are extremely proud to announce that six faculty members from the Faculty of Engineering and Technology, JMI earned a spot in Stanford University's list of top 2% scientists curated by Professor John Ioannidis and his team at Stanford University, published by Elsevier, the Dutch publisher.

This list features about 3500 Indian researchers, putting our country firmly on the world research map. The list encompasses two categories: one evaluating career-long contributions and another highlighting exceptional performance in 2022.

THE FOLLOWING PROFESSORS AND Ph.D. SCHOLARS HAVE BEEN RECOGNIZED



Prof. Abid Haleem
Mechanical Engineering



Dr. Ahteshamul Haque
Electrical Engineering



Prof. Arshad N Siddiqui
Mechanical Engineering



Dr. Musheer Ahmad
Computer Engineering



Prof. Tarikul Islam
Electrical Engineering



Dr. Mohd Javaid
Mechanical Engineering



RESEARCH SCHOLAR FROM FET, JMI SELECTED FOR PMRF

The Prime Minister Research Fellowship (PMRF) Scheme is a special program of Indian Government to enhance research quality in higher educational institutions. We are extremely elated to announce that one of the four girl research scholars who were awarded the coveted Prime Minister Research Fellowship (PMRF) was from our faculty. Ms Suwaiba Mateen from the Department of Electrical Engineering was awarded the same under the supervision of Dr. Ahteshamul Haque .

She will be receiving a fellowship of Rs 70,000/- for the first two years, Rs 75,000/- for 3rd year, Rs.80,000/- for the fourth and fifth year respectively. Apart from this, She will be getting a research grant of Rs. 2 Lakhs per year (a total of Rs 10 Lakhs for five years) under the PMRF. In regards to this achievement, Prof. Najma Akhtar, said "JMI stands for excellence and strives hard to provide its students every possible support to achieve great heights." She further added, "This performance reflects university's focus on high quality research and I am particularly happy that the all four achievers are girl researchers".



Suwaiba Mateen

TEAM EPIONE WINS

SMART INDIA HACKATHON 2022

The Smart India Hackathon, organized by the Ministry of Education, encourages student innovation and problem-solving. In the 36-hour event held on August 25-26, 2022, Team 'Epione,' composed of six 3rd year

Computer Engineering students—Arefa (Team Leader), Aaliyah Beg, Faizan Choudhary, Lal Bihari Pandey, Fatima Shafique, and Abbas Haider—secured the first prize, earning a Rs. 1 lakh cash prize. Their project addressed the imperative issue of promoting self-care and improving the holistic well-being of students. The solution, a cross-platform mobile app named 'Epione,' was developed using Flutter and Dart, showcasing their technical prowess in creating a meaningful solution within the hackathon's constraints.



TEAM HECKERPEEPS WINS CYBER SECURITY CHALLENGE- KAVACH 2023



Team HeckerPeeps, consisting of three students from the Department of Computer Engineering - Husain Shahid Rao, Ausaf Ahmad, Sparsh Mahajan, and three students from Electronics and Communication Engineering - Huzaif Malik, Mohammad Sarfraz Alam, Shairin Meraj, secured victory in the first Cyber Security Challenge KAVACH-2023. They earned a cash prize of Rs. 1 lakh. Their winning project, KVH-017 (Hardware Forensic Suite), presented a desktop application providing a comprehensive solution for Disk, Memory, and Network Forensics. Notably, the suite is compatible with Windows, Mac, and Linux operating systems. This achievement highlights their excellence in addressing cyber security challenges with an innovative and versatile solution.

Team Alias emerged victorious at the prestigious SMART INDIA HACKATHON 2023

Team Alias, consisting of Aiman Fatima, Anzal Husain Abidi, Ijlal Ahmad, Faizullah, Bilal Sajid, and Vicky Gupta, emerged as winners in the competition, securing a cash prize of Rs. 1 lakh.



They designed Medusa-AI, an innovative online proctoring solution tailored for pre-hackathon and hiring tests. The tool is seamless and secure, offering end-to-end functionality by leveraging advanced AI for monitoring. It boasts a user-friendly interface, customization options, and compliance with data security standards. Medusa-AI is scalable, seamlessly integrates with existing systems, and is supported by robust assistance. It serves as an effective Proctored Exam Tool for shortlisting candidates for national and international-level hackathons.

Team Hawkers Secures 3rd Rank in Autonomous Drone Development Competition (ADDC)

A group of ten talented individuals from the Department of Mechanical Engineering claimed the 3rd position in the Payload Mechanism category of the Autonomous Drone Development Competition (ADDC) organized by SAEINDIA Southern Section.

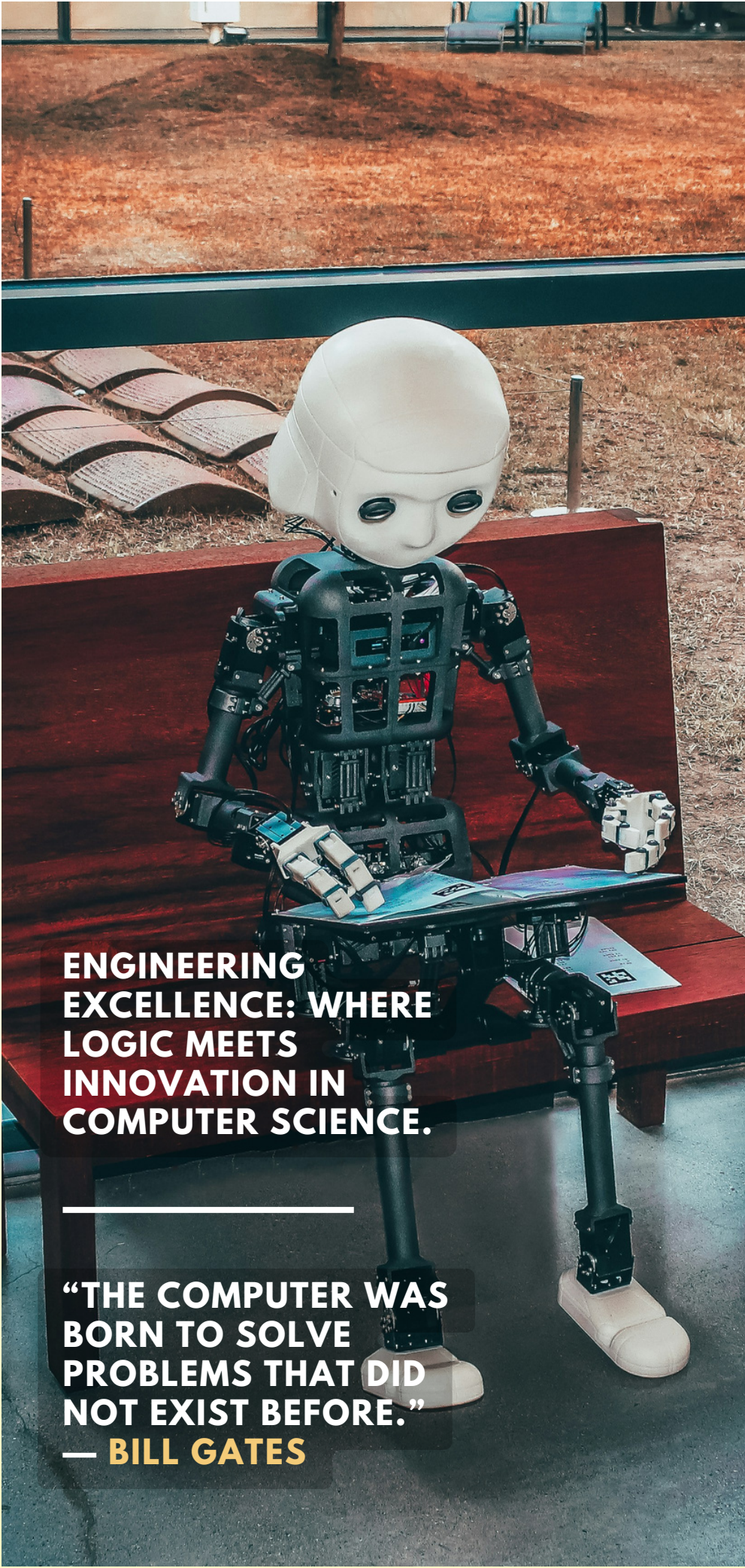


This competition aimed at developing a drone for carrying a medical parcel and autonomously delivering packages on designated areas and upon recognizing humans where this operation will be executed as a part of search and rescue event.

The competition, which unfolded in Chennai, gathered brilliant minds from across the country, all competing to create autonomous drones with the potential to revolutionize the medical delivery sector. The members of Team Hawkers include:

DEPARTMENT OF

COMPUTER ENGINEERING

A humanoid robot with a white head and a black, exposed mechanical body is sitting on a dark red wooden bench. The robot is holding an open book with a colorful cover and appears to be reading. The background shows a dry, brownish ground and some outdoor furniture.

**ENGINEERING
EXCELLENCE: WHERE
LOGIC MEETS
INNOVATION IN
COMPUTER SCIENCE.**

**“THE COMPUTER WAS
BORN TO SOLVE
PROBLEMS THAT DID
NOT EXIST BEFORE.”
— BILL GATES**

GENESIS 2023

Department of Computer Engineering, organised Genesis-2023, a techno-cultural extravaganza that turned to be an exhilarating experience for all the students of FET-JMI.

Innovation Unleashed

Genesis-2023 offered a platform for students to delve into the latest advancements in technology, exposing them to a plethora of exhibits and workshops. Participants witnessed the transformative power of technology in their lives and explored innovative applications that merged science, engineering, and creativity.

Technical Triumphs

The fest featured an array of challenging events such as Technical Quiz, Battle Code, and ML Model Building, pushing participants to showcase their technical acumen. Genesis-2023 not only celebrated knowledge but also fostered a competitive spirit, encouraging students to excel in various domains of computer engineering.



AI & ML Training

Department of Computer Engineering organized a three-week Short-Term Training Programme (STTP) on 'Artificial Intelligence and Machine Learning' in a hybrid format. The 50-hour STTP took place from July 4th to July 22nd, 2023. The program featured experienced faculty members from JMI,

reputable central/foreign universities, IITs, NIITs,

IIITs, and industry experts, aiming

to instill a passion for these

evolving technologies in students.

Comprising five modules,

the course covered topics such

as Introduction of AI & Python

Basics, Applied Data

Science with Python,

Machine Learning

Algorithms, Deep Learning

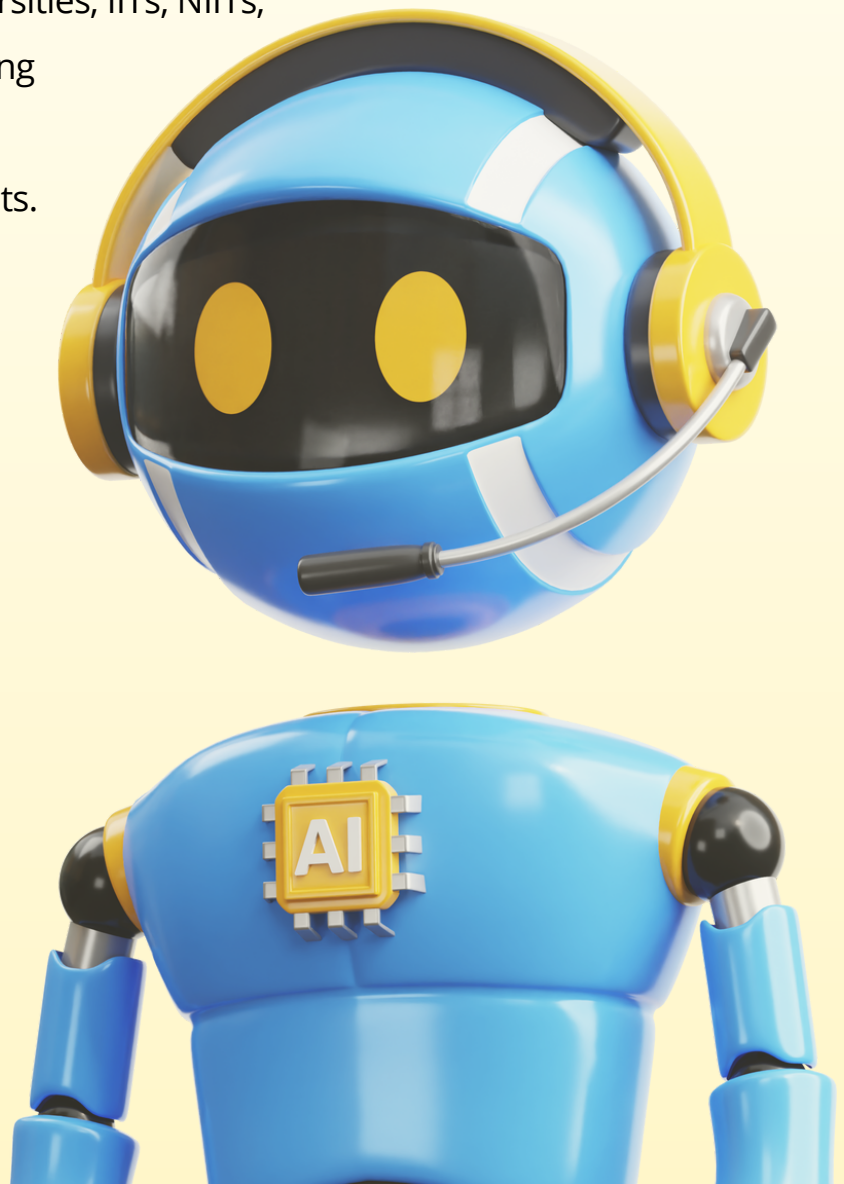
for Computer Vision with

Keras & Tensorflow,

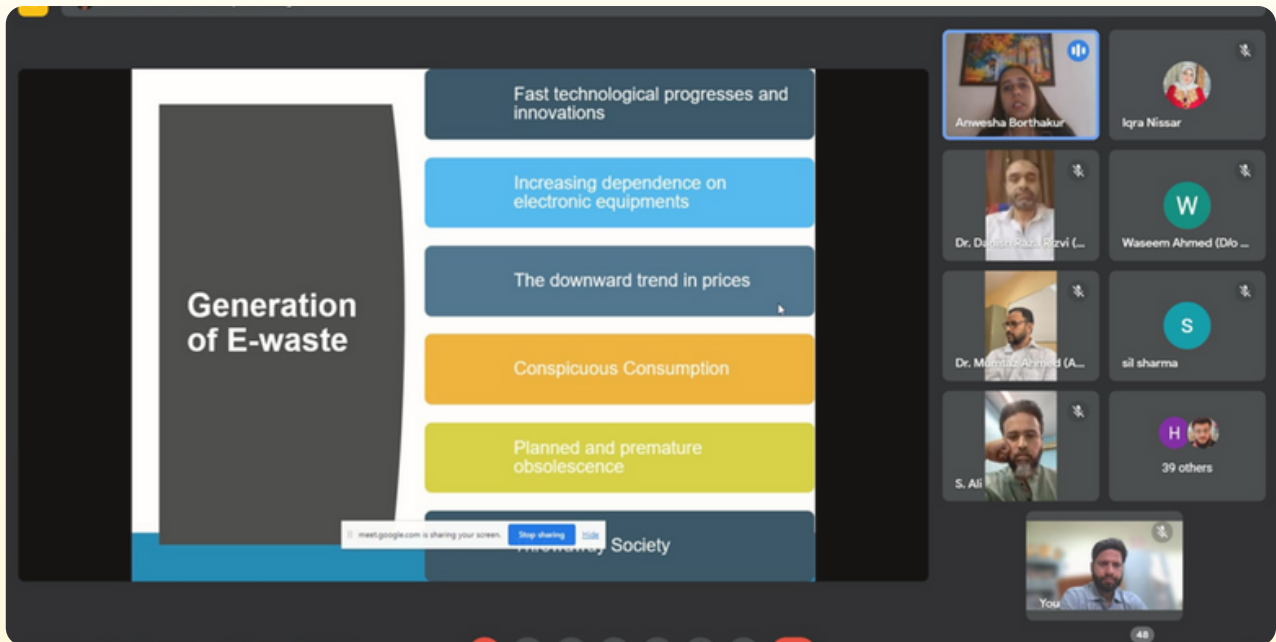
and Deep Learning for

NLP with Keras &

Tensorflow.



World Environment Day Celebrations



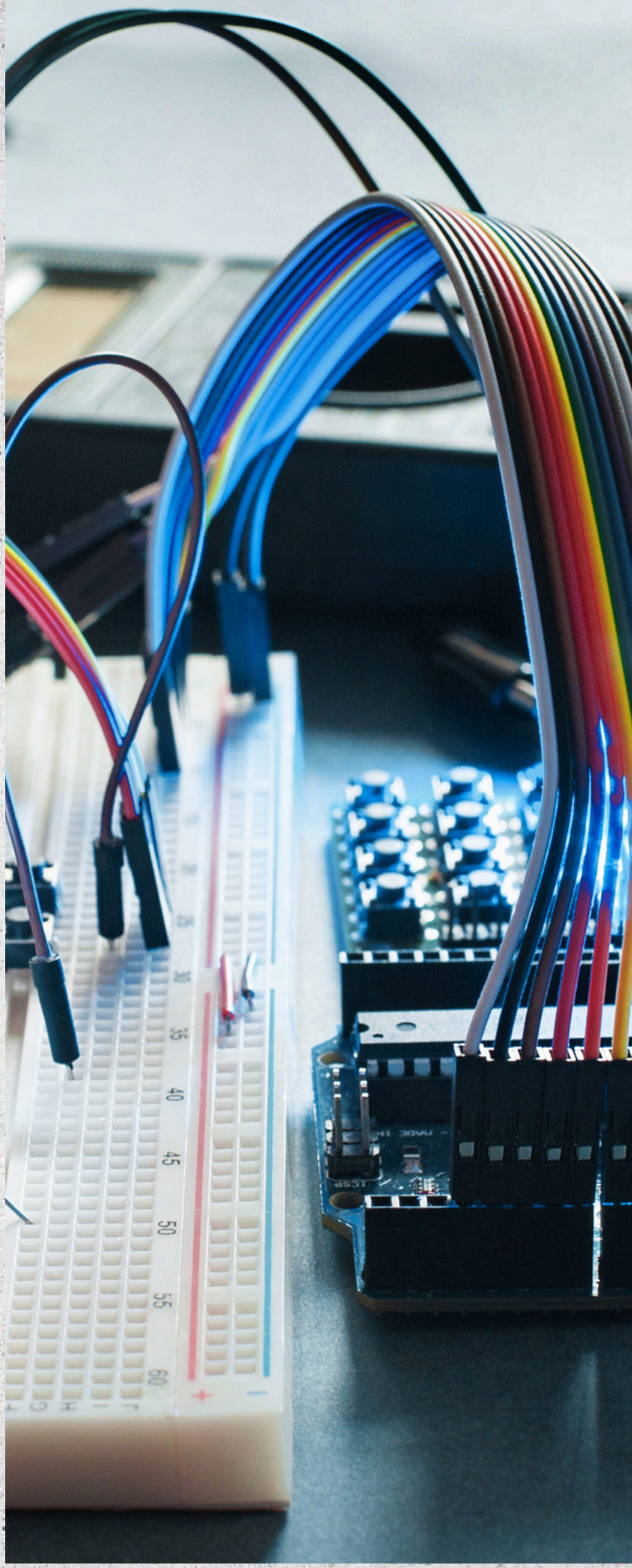
The Department of Computer Engineering organized an online extension lecture titled "Technology and E-Waste Management" on May 31, 2023. Dr. Anwesha Borthakur, a Marie Skłodowska Curie Postdoctoral Fellow and researcher at Katholieke University Leuven (KU Leuven), Belgium, delivered the lecture. The lecture addressed the global E-waste problem with a specific emphasis on the Indian subcontinent.

Key Discussion Points:

- Dr. Anwesha discussed the industrial and social factors contributing to E-waste accumulation.
- She highlighted governmental policies and international efforts aimed at mitigating the E-waste crisis.
- The session provided valuable insights into the challenges and solutions concerning E-waste management at local and global levels.

DEPARTMENT OF

ELECTRONICS & COMMUNICATION ENGINEERING



EVENTS

GETTING TO KNOW THE CORE



Garima Garg
Validation Engineer at
Texas Instruments
MS Technical University
of Munich 2020



Syed Mohammad Hamza
Mitacs GRI Scholar 21'
JMI ECE 2022



Atif Ansari
Lead Design Engineer at
Cadence Design Systems
JMI ECE 2017

On November 19th, Garima Garg(Validation Engineer at Texas Instruments), Syed Mohammad Hamza(Mitacs GRI Scholar 21') and Atif Ansari(Lead Design Engineer at Cadence Design Systems), addressed the notion that core electronics is not daunting. Sharing their experiences, they emphasized the approachable nature of the field.

Practical insights and success stories conveyed during the event highlighted the importance of breaking down complexities and fostering a passion for electronics.

Attendees gained a nuanced perspective on navigating the electronics landscape, reinforcing the idea that, with dedication and practical learning, mastering core electronics is within reach.

EVENTS

CRACKING OFF CAMPUS PLACEMENTS

On September 16th, Mr. Zaid Akhtar, a recent Aligarh Muslim University graduate, shared invaluable insights on cracking off-campus placements. Having secured the position of IC Design Engineer at Analog Devices with a remarkable CTC of 27 LPA.

Mr. Akhtar emphasized the importance of strategic preparation.

The poster is a vertical rectangle with a dark blue background and red accents. At the top left is the Aligarh Muslim University logo. Below it, the text 'Dept of ECE presents' is in a small, white, sans-serif font. The main title 'Cracking Offcampus PLACEMENTS' is prominently displayed in the center, with 'Cracking Offcampus' in white and 'PLACEMENTS' in large, bold, red letters. Below the title is the tagline '"Sharing Experience with the World"' in a small, white, italicized font. A red button with the text 'Join Us' is positioned below the tagline. To the right of the button is a portrait of Mr. Zaid Akhtar, a man with dark hair and a beard, wearing a blue shirt. Below the portrait, the text 'Zaid Akhtar' is written in large, white, bold letters. Underneath his name, it says '27 LPA package IC Design Engineer at Analog Devices' in a smaller, white, sans-serif font. At the bottom right, 'Aligarh Muslim University' is written in a small, white, sans-serif font. On the left side of the poster, there are three icons: a calendar icon, a clock icon, and a location pin icon. Next to each icon is text: 'DATE SATURDAY 16, SEPTEMBER', 'TIME 4-5PM', and 'VENUE GOOGLE MEET' respectively, all in white, sans-serif font.

Dept of ECE presents

Cracking
Offcampus
PLACEMENTS

"Sharing Experience with the World"

Join Us

DATE
SATURDAY 16, SEPTEMBER

TIME
4-5PM

VENUE
GOOGLE MEET

Zaid Akhtar

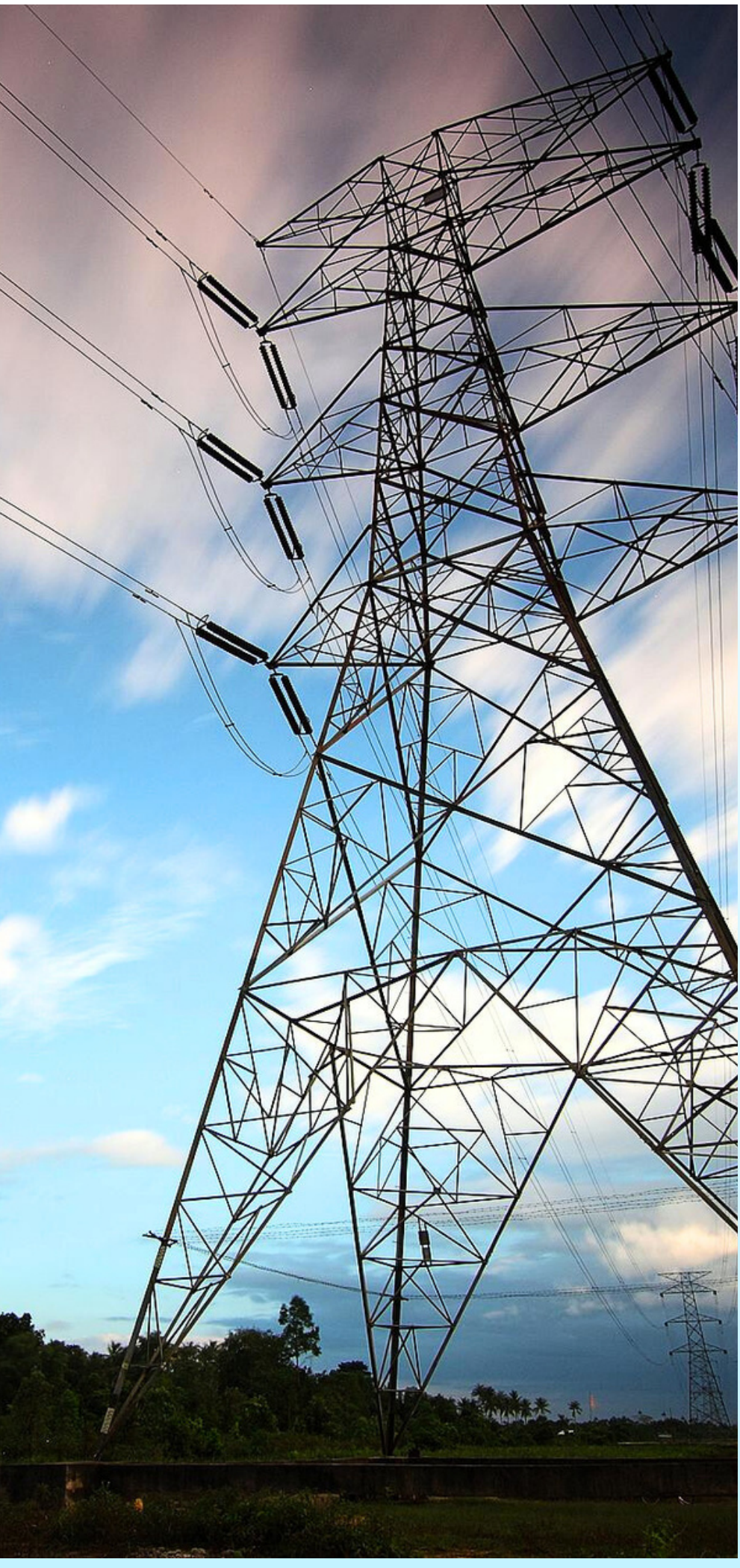
27 LPA package
IC Design Engineer at
Analog Devices

Aligarh Muslim University

He highlighted networking, mastering core skills, and tailoring resumes to industry needs as key elements. His success story served as inspiration, illustrating that a focused approach, coupled with dedication, can lead to triumph in off-campus placements. Attendees left armed with practical strategies for navigating the competitive job market.

DEPARTMENT OF

ELECTRICAL ENGINEERING



ENCOMIUM 2023

Machine Learning
Workshop



1-Minute Video
Making



Circuit
Debugging



Tricky-Circuit
Design



Research Idea
Presentation



Technical Poster
Presentation



Valedictory
Ceremony



EVENTS



SEMINAR

Awareness Generation
Program on Solar Energy
Intervention for
Sustainable Lifestyle

INVITED TALK

Artificial Soundscapes for
Sustainable Cities:
Technical Innovations in
Eco-Acoustics



IEEE SA Collaboration

IEEE- JMI Student Branch and
Standards Association IEEE SA had
jointly organized a workshop on
"Open Source Changing Landscape
Of Technology" at FET-JMI.

DEPARTMENT OF

MECHANICAL ENGINEERING



CELESTRA



ASME JMI organized the Tech fest of Jamia Millia Islamia, a dynamic event comprising various engaging activities and competitions. The Tech fest aimed to provide a platform for students to showcase their skills, knowledge, and creativity in different areas of engineering and technology.

Product/Prototype Design and Simulation Challenge (PDSC):

This competition focused on challenging participants to design and simulate innovative products or prototypes using their engineering expertise. .

Poster making on "Engineering for Sustainable Development":

Participants were invited to create visually appealing posters highlighting the importance of engineering in achieving sustainable development goals. The competition aimed to raise awareness about sustainability

Original Idea presentation: Shark Tank

This event provided participants with the opportunity to pitch their original ideas and innovations in a "Shark Tank" style format. It aimed to foster thinking and encourage participants to present their ideas with confidence and clarity.

Quiz on "G20 & Industry4.0"

Participants took part in a quiz that tested their knowledge of the G20 (Group of Twenty) organization and its relation to the concept of Industry 4.0.

Product Selling competition

This competition provided participants with the opportunity to showcase their entrepreneurial skills by presenting and selling their own products. It aimed to encourage participants to think strategically about product marketing and sales.

Word Hunt

A word hunt competition was organized to challenge participants' knowledge and vocabulary related to engineering and technology. It aimed to encourage participants to explore and learn about different terms and concepts in an engaging manner.

Case Study competition

Participants were given case studies related to real-world engineering and technology challenges. They were required to analyze the given scenarios, propose solutions, and present their findings.



WORKSHOP

ASME JMI ORGANIZED A WORKSHOP FOR UNIVERSITY STUDENTS FOCUSED ON CAMPUS BEATS

A competition organized by renowned consulting firm ZS Associates. The workshop aimed to provide students with valuable insights and skills that would enhance their performance in the competition and prepare them for successful careers in the industry.

Experienced and successful participants who had previously excelled in Campus Beats were invited as speakers and mentors for the workshop. They shared their knowledge, experiences, and strategies, offering valuable guidance on how to approach the competition effectively.



DEPARTMENT OF

CIVIL ENGINEERING



THRIVE'23

01

**POSTER MAKING
COMPETITION**



02

**BRICK DESIGN
COMPETITION**



03

**MIX DESIGN
COMPETITION**



04

SCAVENGER HUNT



05

**SUSTANABLE
INFRASTRUCTURE**

06

MOCK INTERVIEW



07

BRIDGE DESIGN

08

**MIX DESIGN
COMPETITION**



09

EXTEMPORE

DEPARTMENT OF

ENVIRONMENTAL SCIENCE



Municipal solid waste dumping, and heavy metals pollution



On the 15th of September, the Department of Environmental Science, Faculty of Engineering and Technology, Jamia Millia Islamia, celebrated Swachhta Pakhwada 2022, by organising an expert lecture on the topic of “Municipal Solid Wastes Dumping and Heavy Metals Pollution: Unique management strategy through application Of Biochar and Vetiver grass”. **It was given by Dr. Sudip Mitra, Associate Professor, School of Agro and Rural Technology, IIT Guwahati.** He talked about how local produce was used to produce biochar and how that was then used to study the heavy metal contamination of a waste dumping site in Guwahati and a brick kiln in Tejpur. He discussed the results of the study conducted. Then he went on to explain how the data collected and analysed could help policy makers, such as municipal bodies, especially in cases where they don't have the necessary instruments and/or techniques. It was an insightful and informative talk, and all the students were grateful to the Department In-charge, Prof. Sirajuddin Ahmed and all the faculty members for organising it.

Sustainable Engineering of Infrastructure



On the 22nd of September 2022, the Department of Environmental Science, Faculty of Engineering and Technology, Jamia Millia Islamia, organized an introductory lecture on "Sustainable Engineering of Infrastructure" by **Prof. Dr. Ing. Michael Schick of the University of Applied Science, Erfurt, Germany**. He talked about how we can pursue a master's or PhD program there. It was an insightful and informative talk, and all the students were grateful to the Department In-charge, Prof. Sirajuddin Ahmed, and all the faculty members for organizing it.

“Materials Chemistry Against Climate Change - Using Chemistry for Good!”

The Department of Environmental Science organised an expert lecture on the topic of “Materials Chemistry Against Climate Change- Using Chemistry for Good!” **by Prof. Charl Faul, Faculty International Director, Faculty of Science, University of Bristol, UK on 7th of November, 2022.** The lecture was based on his research in materials chemistry, making polymers with tuneable structures and properties by using reactions to change the bonds in molecules.



Workshop on WWTP/ETP modelling

On 14th February 2023, the Department of Environmental Science, organised a workshop session under the G20 summit series on Wastewater Treatment Process and Effluent Treatment Plant Modelling using WEST software, in collaboration with DHI. He talked about dynamic simulation software that can mimic the working of a wastewater treatment plant. It is a complete package that allows for various parameters for high accuracy. **The workshop was attended enthusiastically by students and faculty from other departments as well.**



DEPARTMENT OF

APPLIED-SCIENCES & HUMANITIES



SAFAI ABHIYAN

FET, JAMIA MILLIA ISLAMIA

The Department of Applied Sciences and Humanities, Faculty of Engineering and Technology, organized a "Safai Abhiyan" or Cleanliness Drive on 10th October 2023. The initiative aimed to promote a cleaner and more hygienic environment within its campus and to instill a sense of responsibility among the students and staff towards maintaining a clean and green environment. This report outlines the objectives, activities, and outcomes of the Safai Abhiyan.

The Safai Abhiyan was a collaborative effort among the Faculties, staff, and students of the Department of Applied Sciences and Humanities. Its purpose was to create awareness about the importance of cleanliness and hygiene, foster a sense of community responsibility, and contribute to a more sustainable and eco-friendly campus.

FACULTIES INVOLVED:

Prof. Zishan H. Khan (HoD)

Dr. Satya Prakash Prasad

Dr. Islam Uddin

Dr. Navaid Zafar Rizvi

Dr. Mohd Shoeb Khan

Dr. Mohd Shadab

INSPIRING ALUMNI

ADVANCING HORIZONS

Abhishek Chola (Batch-2012, FET)



Abhishek Chola, Founder & CEO at Just Learn India, a product of Just Rojgar Solutions Pvt. Ltd. is an alumnus from the Faculty of Engineering & Technology, Jamia Millia Islamia from the Department of Civil Engineering-2012 Batch.

Sir has more than 12 years of experience in the field of construction engineering, turn-key projects, real estate, project management consultancy, procurement, employment generation and deep tech. He had a zeal towards entrepreneurship and its interlinking with the modern-day technological advancements, used to leave him awestruck from a very young age. He channelized his knowledge of handling large-scale projects by working extensively towards 21st century education, artificial intelligence, employability, humanoids, deep tech, AR/VR, skilling solutions to help businesses grow and sustain.

He has been awarded the Young Entrepreneur Award in 2018, Maulana Mohammad Ali Jauhar Young Achiever Award-Jamia Millia Islamia, Under 40 Top Entrepreneur Award, 2022 by Business Mint, CSR Award-2020 by Dr Alok Mishra, Joint Secretary, AIU, Govt. of India, and is also a regular speaker at All India Radio and News 18 TV.

His current startup Just Learn, is a National Award-Winning Skill Tech & Deep Tech B2B business model selected as India's top 75 startups by the Gov. Of India, backed by the very prestigious Indian Institute of Management, Lucknow.

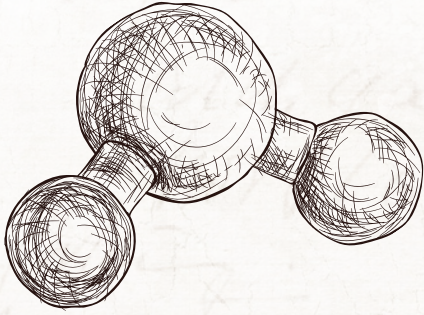
It raised fundings and FDI at a robust valuation, appraised by Invest India, DPIIT, Ministry of Commerce & Industry, Govt of India.

Just Learn works with some of the most prestigious Indian and International organizations - Pvt. companies, govt. bodies, govt. PSU, United Nation agencies, academic institutions, NGOs, foundations, CSR projects etc. and is solving the challenges faced by industries in training by offering 1500+ certificate courses in 150+ domains and has upskilled and trained more than a million people working in different industries like Iron & Steel, Automobile, Cement, Oil & Gas, Healthcare, Hospitality, Agriculture, Manufacturing etc.

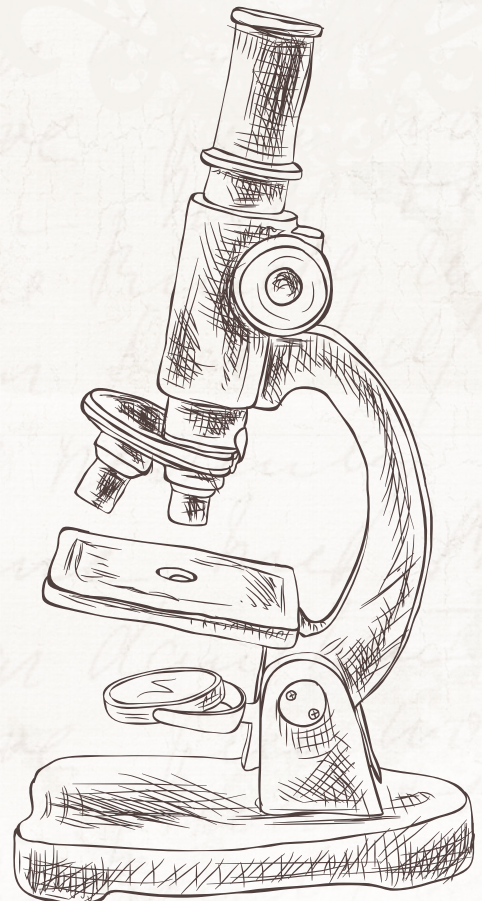
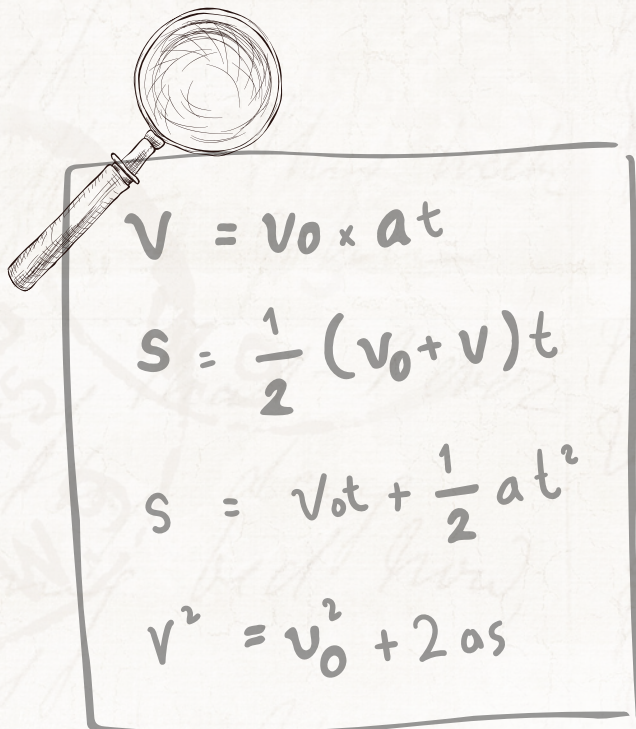
We the students of FET-JMI are deeply enthralled by his achievements, his vigour and talent leave us in awe and in wonder that engineering is not just about completion of assignments and scoring high CPI's, it is about using the knowledge gained to solve the real-life problems and make this tumultuous of a world, less confusing and to provide solutions thereby easing the life for the common folk and for the generations to come.

Our heartiest congratulations to sir for all his achievements and wish him success in all of his future endeavours, may he keep on ascending to new heights thus waving the banner of Jamia Millia Islamia above all!

2023, JMI



RESEARCH AND COLLABORATION



Revolutionizing Energy Absorption: SERB Approves Grant for AI-Based Smart Eddy Current System

2023, JMI

In a major stride towards advancing energy absorption technologies, the Science & Engineering Research Board (SERB) has approved around 48 Lakhs grant for the project "AI-based Smart Eddy Current Energy Absorbing System." Led by Dr. Arunesh Kumar Singh from the Department of Electrical Engineering, this three-year initiative aims to revolutionize traditional eddy current systems by integrating Artificial Intelligence (AI).

The project's core objective is to develop a state-of-the-art energy absorption system using smart eddy current technology. By incorporating AI, the system becomes more responsive and versatile, allowing for real-time monitoring and adaptive adjustments, significantly enhancing efficiency compared to traditional counterparts.

Dr. Singh, an accomplished researcher in Electrical Engineering, heads a multidisciplinary team, leveraging expertise from academia and industry. The integration of AI is poised to propel these systems to new heights, with the potential to reshape how energy is absorbed and utilized across various sectors.

The generous grant from SERB underscores the government's commitment to fostering innovation and research in cutting-edge technologies. Over the next three years, the research team will delve into the intricacies of smart eddy current systems, aiming to develop a robust and scalable solution applicable across industries.

Anticipated outcomes include transformative improvements in energy efficiency, waste reduction, and contributions to sustainable technologies. The AI-based Smart Eddy Current Energy Absorbing System holds promise for reshaping how we harness energy, marking a significant stride towards a more sustainable and technologically advanced future. As Dr. Arunesh Kumar Singh and his team embark on this pioneering initiative, the scientific community eagerly awaits the breakthroughs that will emerge from this convergence of AI and energy absorption technologies.



Dr Arunesh Kumar Singh

Advancing Water Quality Monitoring: DRDO-Funded Project Explores Optical Sensor Innovations

2023, JMI

In a groundbreaking initiative, the Defense Research and Development Organization (DRDO) has sponsored a project with a budget of Rs 93,75,383 for the feasibility study and demonstration of optical sensors targeting water pollutants (LSRB-393). The project, spanning three years, is led by Principal Investigator Prof. Mainuddin, with Prof. M T Beg serving as the Co-PI.

The primary aim of the project is to conduct a detailed feasibility study and demonstration of optical sensors, particularly focusing on addressing the water quality challenges faced by soldiers stationed at high altitudes, especially in the Northeast. In these regions, obtaining potable water is a significant challenge due to contamination with substances such as Arsenic, Phosphate, Fluoride, and Iron. Presently, soldiers rely on chemical kits for contamination detection, providing results within half an hour but with only 50% accuracy. The new approach under this project involves designing and developing optical sensors capable of delivering instant results within a few milliseconds and with significantly higher accuracy.

The project focuses on the deployment of state-of-the-art optical sensors and techniques to measure pollutants in water. Optical fiber-based sensors will be utilized for Iron and Fluoride detection, offering sensitivities better than permissible limits (300 ppb and 1.5 ppm, respectively). Additionally, Arsenic detection will be carried out using Laser-Induced Fluorescence (LIF) based sensors, surpassing the permissible limit of 50 ppb.

This innovative project not only aims to enhance the accuracy and speed of water quality testing but also addresses critical issues faced by soldiers in remote and challenging terrains. The development of advanced optical sensors has the potential to revolutionize water quality monitoring, not only in military settings but also in civilian applications, contributing significantly to public health and environmental protection. As Prof. Mainuddin and his team embark on this ambitious journey, the outcomes are anticipated to have far-reaching implications for water quality management and technology development.



Prof Mainuddin

Principal
Investigator



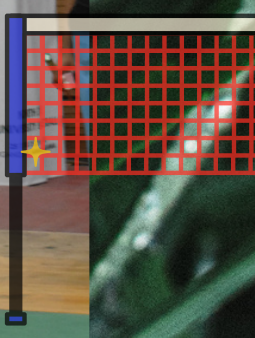
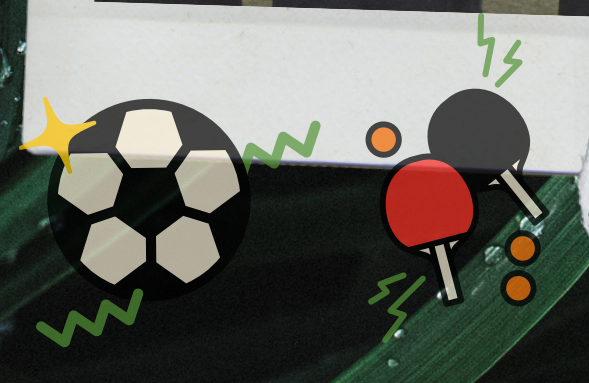
Prof Mirza

Tariq Beg
Co-Principal Investigator



On the Field

Sports Spectacle in Pictures





Cultural Tapestry

MOMENTS
IN PICTURES



Student Corner



E A T
C R E A T E
R E P E A T

PAINTINGS, POEMS, ARTICLES...

BRUSH & BRILLIANCE

Student Art Showcase



Umme Habiba (MTech second year)



Nomah Fatima (BTech first year)



Laraib Hasan (BTech first year)



Isna Fatmi (BTech first year)



Aaliyah Batool Husain (BTech first year)



Syed Sajjad Hasnain (BTech first year)



Nahid Khanam (BTech first year)



Afzal Alam (BTech first year)



Syed Sajjad Hasnain
(BTech first year)



Kausar Parveen
(BTech second year)



Nahid Khanam
(BTech first year)



How different do you think you are
From your neighbour,
The old-timey narrow-trunked tree
Hanging outside your window?
Don't you see it wither and fall away?
Don't you see it cry?
Isn't it naive to assume that
The position of sun doesn't affect your life?
The sun comes and goes
Taking our peace with them
Only to return it us,
On a random dawn.

A series of such dawns
Are what we call a summer break.

A break from back-breaking
A break from stress,
No more, no less;
A chance to replenish our humanity

Which depletes right before our eyes
As we count numbers
That essentially,
Mean nothing:
No more, no less.
Yet they dictate what we eat, where we breathe.

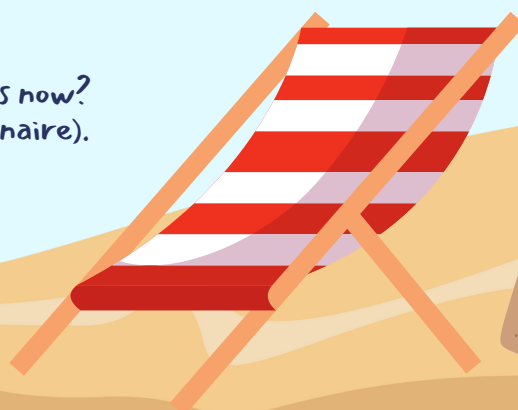


The sun waits
Waits for
To observe
To
Seekers of broken patches of time;
Scheduled time for personalhood.
Who can even afford humanity on weekdays now?
Definitely not humans (not even a billionaire).



Summer Break

- Zartasha Nasir
(BTech first year)



Have you heard, the blue bird sing,
The blue bird cry,
Blue bird weep.
Shout its name into unknown voids
Shout so loud lungs would creak.

Out of breath,
No soul it lacked
Life it saw,
What none had.
Dumbbells stood on its shoulder heavy
Thoughts convulsive, not so merry.
Glaring eyes, you might not see
Tear drops trickling down its cheek.
Leaving behind dust alone
Voices surround,
O' the ghastly morn.

I guess it came from place afar,
Home it left on the distant shore,
Floating across the lucid sky
Across oceans huge and railway lines
Above hooting trucks and traffic raging
Sun gleaming upon it, hollow feeling.
Above houses small, and mountains pretty
Where rivers would sing, melancholious ditty.
Above mighty jungles and sunflower fields
Baby breaths and Champak trees.

BLUE BIRD

- MOHAMMAD OWAIS
(BTECH FIRST YEAR)

Did it arrive? No not yet!
Blue bird flew across the golden crest.
Wandering into the unknown lore.
It found drug in cupid's store.

Some days, it mesmerized
Some days, sleepless battered eyes.
Some days, it hid behind giggles silly
Cook up stress,
O' how they smiled, lily.
Watched the leaves, in their merry sway,
Winds singing carols gay,
Whimpers faded; day seemed done
All it heard is words unsung

Cannot rest, station's far
Winds from east, judged blue birds spark
Accused it of being too much kid
Mellowness lacked, flying squid

What is it, I know not who?
Barrage of thoughts or a kangaroo.
They called it shmuck, cruising weirdo
Called it stupid,
That is all they would know
Ask me what, ask me why,
Don't ask me how I met the blue bird shy
It flew across the horizon's gold,
It flew beyond their ominous scolds
Far into the unknown void,
To where it found its own kind
To where it found its own kind.



LOST UTOPIA

- Isna Fatmi (BTech first year)

Somewhere under the golden leaves adoring the trees in fall,
Under the blessing of a utopian thrall,
Something higher and true to all,
Stood our country mysterious and tall,
Basking in the softness of the crisp autumn sun,
A place where everyone was welcome.
It was a place of love and peace,
A place where bliss never ceased.

It was where the wind felt like music,
Where beauty was basic.
Above our heads are purple skies and red sunsets,
Casting the glitter of united silhouettes,
The civilians cried and laughed for each other,
A land where everyone was a sister and a brother.

But our hopes shattered when the prophecy dawned,
Winter was approaching and our town about to be wronged.
You'd never know where your utopia vanishes,
You'd be too busy finding yourself in the ashes.

Fell daisies, fell bodies,
An end to ever growing stories,
Our souls throb in audible screams,
Everyone drowning in incessant bloodstreams.
With their powers spewed by countless traitors,
Nobody smiled except for the dictators.
All in exchange of our friends' flesh and bone,
They are laughing and our misery's condoned.

We are lost to a point from where home isn't in sight,
We haven't lived in a long time owing to our plight,
We've smoked the burning death with bleeding eyes,
On the pyre of our comrades', tragic demise.
We could stage an uprising but our resolve is too weak,
Maybe we would be killed before we could speak.

We could run and charge forth,
But would our rebel melt at the back of our throat?
Our arms are weak and our knees are about to bend,
But we still stumble carrying a dead friend.
Maybe we could repair all that's completely broken,
Maybe we could escape this nightmare if we could be awoken;
But we drowse in the depths of despair,
This new reality would be hard to repair.

Eternal Wandering

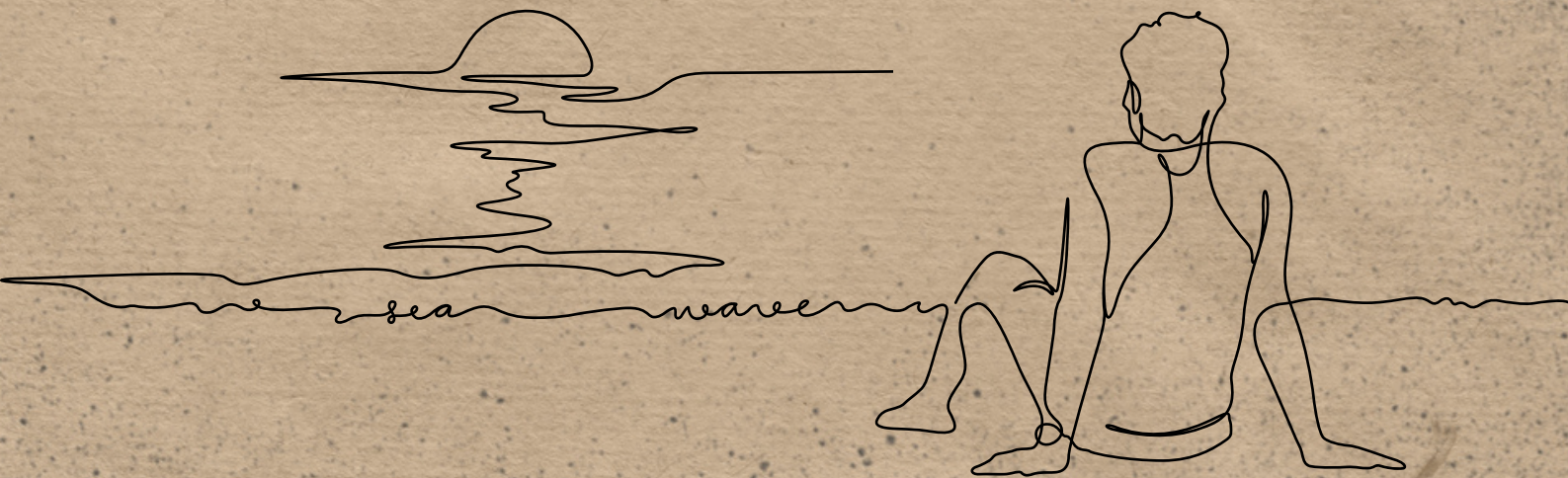
*And to the man who was left on the shore,
It was a dark melancholy that trapped him in his own skin.
Wandering lanes of procrastination...one must thrive for the other end,
neither would it end its cause,
nor he want a new start.*

*He is showcasing other perspectives for which his darkness is null
measured.*

*And to the man who was left on the shore,
glimpses of redemption are fading just to his eyes.
But, they are always there and everyone is aware of their potential.
How long would he deny?
He is good. He is far sighted.
Clusters of all his loosen efforts are transforming.
Transforming into an incident of light,
a light with seven colours of hope.*

*Yes, a man who was left on the shore,
he is a man of calibre,
calibre that holds onto his chin,
he looks straight to the sight,
he looks far,
but neither he want a new life,
nor he wanna start.*

- Shireen Khan (MSc second year)



DAYS

- ALI NASIR (BTECH FIRST YEAR)

Born in this world, born we are on our birth-day,
To live precious life our way
But do you know exactly what's a day's value?
If you are unaware, let me tell you

Year after year you celebrate the day of your birth,
Nurtured so kindly by mother-earth
And as time flies, one day you stand, stand on your foot,
Later, keeping under pillow for awaited 'present' that first tooth!
No doubt too comes those days you hide-covering yourself with wool,
For early at morn when 'creepy yellow mass' arrive, for your first day at school
Shorts become short, those skirts you throw,
As 'time waits for none', so you grow.

Then one day comes, you turn adult and lead a new life,
Swearing in your partner at wed-day to be a good husband or wife
Day too comes when you receive 'that' sheet,
'That' worry your dear ones, not letting you taste that sweet

Some day you smile,
Some day you cry,
Emotions are complex, extreme glad or grief
at last tear drop from the eye!
But that is life, one has to live-you would say,
To live precious life our way.
Until you find those sad-gloomy eyes,
yourself lying on the cold bed

Reminiscing those days,
breathing last and waiting for your death
Well!
I speak what I'd see',
Shall I not ask- "what value doth a day owe in the life of thee?"
So, thee,
yes thee!
me say, live days, live life,
Vanquish the obstacles, conquer them like Clive.
So live-live until those last lubb-dubb sounds,
Cause every day in life counts!



Revamping Talent Acquisition in Tech :

Navigating the Pros and Cons of Automating Recruitment Processes



In the ever-evolving landscape of technological progress, businesses grapple with the challenge of attracting top-tier technical talent while optimizing their recruitment procedures. The adoption of automation in the hiring process is gaining prominence, promising efficiency and streamlining. However, like any paradigm shift, it comes with its set of considerations, especially in the intricate field of computer engineering.

1. **Expedited Time-to-Hire and Cost Efficiency:** Automated recruitment processes significantly reduce the time and resources invested in hiring. Microsoft's implementation of automated coding assessments led to a 40% reduction in time-to-fill positions and a 70% decrease in costs per hire.
2. **Enhanced Candidate Experience:** Automation ensures swift responses, personalized communication, and a seamless experience for candidates. Airbnb's use of AI-powered chatbots improved candidate satisfaction through real-time updates and self-scheduling options.
3. **Objective Technical Screening:** Automated technical assessments provide standardized and objective evaluations of candidates' technical skills. Google's automated coding challenges objectively assess problem-solving skills and coding proficiency.
4. **Streamlined Collaboration and Onboarding:** Automation aids in seamless collaboration among stakeholders and efficient onboarding processes.

Atlassian's integration of automation tools with platforms like Jira and Slack expedites candidate feedback, new hire paperwork, and decision-making.

Considerations:

1. **Overreliance on Technology:** Excessive dependence on automated tools may lead to overlooking qualitative aspects, such as interpersonal skills or cultural fit.
2. **Bias in Algorithms:** Algorithms used in automated screening may inherit biases present in historical data, leading to discriminatory outcomes.
3. **Limited Personalization:** While automation provides efficiency, it might compromise the personalized touch and human connection in the recruitment process.
4. **Initial Implementation Costs:** The upfront costs of implementing automated systems, including software and training, can be substantial for some organizations.
5. **Resistance from Human Resources:** Some HR professionals may resist the shift to automation, fearing job displacement or a loss of the human touch in hiring.

In conclusion, automating the recruitment process in the field of computer engineering offers substantial benefits but requires a nuanced approach. While it accelerates efficiency, improves candidate experience, and ensures objective evaluations, organizations must be mindful of potential considerations like algorithmic biases and the need for a balanced human touch in the recruitment journey. Striking the right balance between automation and human involvement is key to harnessing the full potential of technological advancements in talent acquisition

UNVEILING THE POTENTIAL PLASTIC SOLAR CELL TECHNOLOGY



As a sophomore in Electronics and Communication Engineering, the world of renewable energy has always intrigued me. One technology that has caught my attention is plastic solar cell technology, a groundbreaking innovation with the potential to revolutionize the energy landscape.

Plastic solar cells, also known as organic photovoltaic cells (OPVs), differ from traditional silicon-based solar cells. Instead of rigid materials, they utilize organic polymers, making them lightweight, flexible, and cost-effective. This unique characteristic opens doors to diverse applications, especially in the field of electronics and communication. One of the primary advantages of plastic solar cells lies in their flexibility, allowing for seamless integration into various surfaces. Imagine electronic devices with solar panels integrated into their exteriors, powering them through ambient light. This not only enhances sustainability but also introduces a new dimension to the design of communication devices.

The scope of plastic solar cell technology in Electronics and Communication Engineering is vast.

Devices such as smartphones, tablets, and wearables could benefit from integrated plastic solar cells, offering a supplementary power source that reduces dependency on traditional charging methods.

This innovation aligns with the growing demand for sustainable and portable electronic solutions. In India, where energy accessibility and environmental concerns are critical issues, the development of plastic solar cell technology holds immense promise.

The country's commitment to renewable energy sources aligns with the potential of OPVs. The lightweight and flexible nature of plastic solar cells makes them suitable for rural areas, where traditional infrastructure may be challenging to implement. Additionally, India's push towards the Internet of Things (IoT) and smart cities presents a significant opportunity for the integration of plastic solar cells. Imagine smart sensors and communication devices powered by ambient light, reducing the need for frequent battery replacements and contributing to sustainable urban development.

The development of plastic solar cell technology in India is also gaining traction due to collaborative efforts between academic institutions, research organizations, and industry players. This synergy fosters innovation and accelerates the practical implementation of OPVs in real-world applications.

However, challenges such as efficiency improvement, stability, and scalability still need to be addressed for widespread adoption. As a sophomore in Electronics and Communication Engineering, I am excited to witness and potentially contribute to the ongoing advancements in plastic solar cell technology; as it holds the promise of shaping a more sustainable and technologically advanced future for India and beyond.



-MISHKAT NIZAMI
(BTech second year)

Economics of chip design

-NAMEERA JABI (BTECH THIRD YEAR)

SEMICONDUCTOR FABRS HAVE BECOME INCREASINGLY COMPLEX IN RECENT YEARS, MAKING THEM MORE EXPENSIVE TO BUILD. BUT THE RIGHT COMBINATION OF INCENTIVES AND SUPPORT CAN HELP COMPANIES BRING DOWN COSTS. AN OPEN STANDARD CALLED RISC-V IS REWRITING THE ECONOMICS OF CHIP DESIGN AND SHAKING UP THE TECH SECTOR'S POWER DYNAMICS. FOR YEARS, THE CHIP INDUSTRY HAS RELIED ON A VARIETY OF PROPRIETARY INSTRUCTION SETS. TWO MAJOR TYPES DOMINATING THE MARKET TODAY ARE X86 (USED BY INTEL AND AMD) AND ARM. COMPANIES MUST LICENSE THESE INSTRUCTION SETS WHICH COSTS MILLIONS OF DOLLARS FOR A SINGLE DESIGN. THOUGH, MANY HARDWARE AND SOFTWARE COMPANIES WORLDWIDE HAVE BEGUN TO CONVERGE AROUND A PUBLICLY AVAILABLE INSTRUCTION SET KNOWN AS RISC-V; IT'S A SHIFT THAT COULD RADICALLY CHANGE THE CHIP INDUSTRY. THIS INSTRUCTION SET MAKES COMPUTER CHIP DESIGN MORE ACCESSIBLE TO SMALLER COMPANIES AND BUDDING ENTREPRENEURS BY LIBERATING THEM FROM COSTLY LICENSING FEES.

FAB ECONOMICS CEO DANISH FARUQUI ESTIMATES A TIMELINE OF 3.2 YEARS FOR INDIA'S FIRST PRODUCTION-READY 28NM FAB. THE 28NM PROCESS TECHNOLOGY SUPPORTS A WIDE RANGE OF APPLICATIONS, INCLUDING CENTRAL PROCESSING UNITS (CPUS), GRAPHIC PROCESSORS (GPUS), HIGH-SPEED NETWORKING CHIPS, SMART PHONES, APPLICATION PROCESSORS (APS), TABLETS, HOME ENTERTAINMENT, CONSUMER ELECTRONICS, AUTOMOTIVE, AND THE INTERNET OF THINGS.

SEMICONDUCTOR SUPPLY CHAIN IS COMPLEX, WITH DEPENDENCIES ON RAW MATERIALS, EQUIPMENT SUPPLIERS, FOUNDRIES, ASSEMBLY AND TEST FACILITIES. DISRUPTIONS IN THE SUPPLY CHAIN CAN IMPACT PRODUCTION SCHEDULES AND COSTS. WITH THE RIGHT TECHNOLOGY, DESIGN TOOLS, SPECIALIZED TALENT, BALANCED R&D INVESTMENTS WITH PRODUCT LIFESPANS AND MARKET DEMAND, THIS PROCESS OF CONVERTING RAW SILICON WAFERS INTO INTEGRATED CIRCUITS (ICS) COULD BE MADE FEASIBLE.

ENGINEERING & SCI-FI

Have you ever read a book or watched a movie wherein a fascinating technology is used and you wonder how amazing it would be to use it in real life. Well, a few of those innovations have teleported to the real world recently.

To read a science fiction book is to delve into the world where one can presumably do anything using technology. However, enticing it may seem, oftentimes, it seems far-fetched once we keep the book down and go out in the world. Similarly, when it comes to sci-fi movies, we are compelled to imagine a vault being opened by a skilful hacker or an elaborate escape plan from a secure building without questioning the process.

In the last century, many pieces of literature and films have shown captivating technologies which awakened the curiosity of the audience. Innovations such as artificial intelligence, nanotechnology, advanced warfare, autonomous vehicles, robots, space travel and many more are often picturized appealingly in cinema. These groundbreaking inventions were often influenced by historical science fiction.

If we talk about spectacular movies such as THE FIFTH ELEMENT (1997), WALL-E (2008), IRON MAN (2008), Star Trek (2009), HER (2013) which were far ahead of their time in terms of engineering advancements. High-tech gadgets such as drones, trash bots, aircraft, nano gauntlets, intelligent operating systems, special glasses and the best of all

Jarvis, the dream AI assistant everyone wants were introduced as fictional concepts. These innovations influenced real-world products. Today, we have smart glasses by Meta, advanced military drones, brilliant chatbots, domestic robots, NASA's Orion spacecraft and Tesla's autonomous cars. In a similar manner, well-known books like The World Set Free by H. G. Wells, Ray Bradbury's Fahrenheit 451 and Neuromancer by William Gibson predicted the atomic bomb, flat-screen TVs, Bluetooth headsets and computer hackers.

Even when the audience moves on after watching a masterpiece of science fiction, it inspires the scientists and science enthusiasts to research further in the field. A great example would be Interstellar (2014) which is still known for its cutting-edge cinematography and was worked on by doctors, software developers, engineers and physicists to make the images as accurate as possible. The film inspired three peer-reviewed scientific papers, a book, and a variety of journal articles. Theories like the multiverse, instant subliminal learning and CGI-powered immersive experiences are still being explored and probed.

As science fiction technologies become reality, we must traverse carefully. Ethical considerations are paramount, as misuse can have far-reaching consequences. Responsible innovation is our guiding light.

-MASEERA KHAN
(BTECH THIRD YEAR)



Empowering tomorrow's innovators :

-Mohammad Touhid (BTech second year)

Jamia Millia Islamia's Faculty of Engineering

Jamia Millia Islamia, a renowned institution nestled in the heart of Delhi, has long been a beacon of academic excellence. Among its many illustrious faculties, the Faculty of Engineering stands tall as a testament to the institution's commitment to fostering technological innovation and nurturing the engineers of tomorrow. With a rich history, diverse programs and a dedication to academic rigor, the Faculty of Engineering at Jamia Millia Islamia has made a significant mark in the world of engineering education.

Academic Programs - One of the Faculty's greatest strength lies in its diverse range of academic programs. Students can pursue undergraduate, postgraduate and doctoral degrees in various engineering disciplines namely Civil, Mechanical, Computer Electrical and Electronics and Communication. This diversity ensures that students can choose the path that aligns best with their passion and career goals.

Quality Faculty - The Faculty of Engineering at JMI is home to a distinguished faculty of educators and researchers. These professors are expert in their respective field, bringing a wealth of knowledge and

experience to the classroom. Their guidance and mentorship provide students with a strong academic foundation and inspire them to think critically, innovate and solve complex engineering problems

Research and Innovation - Research is at the heart of the Faculty's mission. Students and faculty engage in groundbreaking research projects that tackle real world challenges. Their innovations have gathered national and international recognition, further establishing Jamia as a hub for technological advancements.

Jamia's faculty of Engineering is a place where young minds are nurtured, where innovation is encouraged and where academic excellence is a way of life. It continues to play a vital role in shaping the future of engineering by producing graduates who not only excel in their careers but also contributes to the betterment of society.

Electronic squander, or e-waste, has ended up a worldwide pickle with the fast progression of innovation. This article dives into the challenges postured by mounting e-waste and investigates imaginative mechanical arrangements to address this natural concern.

1.1. The creating E-Waste calamity: The multiplication of computerized contraptions has caused a surge in e-waste, displaying challenges for transfer, reusing, and natural maintainability. The inappropriate adapting with of e-waste can result in dangerous substances filtering into soil and water, posturing perils to human wellness and the environment.

2.2. Administrative Obstacles: One monster mission in e-waste administration is the deficiency of standard and rigid rules universally. Numerous nations fight with forcing right transfer strategies, driving to the unlawful send out of e-waste to creating nations, worsening the hassle.

3.3. Mechanical arrangements:

- Plan for Reusing (DfR): Actualizing DfR benchmarks ensures that electronic items are outlined with deliver up-of-lifestyles contemplations in intellect. This strategy empowers the utilization of recyclable substances and permits less demanding disassembly.
- Progressed Sorting innovation: excessive-tech sorting strategies, which incorporate engineered Insights (AI) and automated frameworks, are improving the proficiency of e-waste reusing blossoms. these innovation streamline the partition of distinctive substances, maximizing the recuperation of important components.
- Circular monetary framework models: Receiving circular monetary framework standards advances the reuse and

E - WASTE CHALLENGE:

TECHNOLOGICAL SOLUTIONS FOR SUSTAINABLE MANAGEMENT

- JAISHA RASOOL
(MSC FIRST YEAR)

restoration of electronic contraptions, diminishing the need for normal fabricating and reducing the in general e-waste burden. Eco neighborly Transfer methods: developments in feasible transfer strategies, like bioleaching and phytomining, objective to extricate prized metals from e-waste with out dispensing natural hurt. those strategies can decrease the natural impact of conventional extraction methods.

- 4. Around the world Collaboration: E-waste is mindful of no borders, making worldwide collaboration basic. Governments, businesses, and natural companies need to canvases collectively to set up around the world necessities for e-waste administration and make certain the mindful reusing of electronic merchandise.
- 5. Open mindfulness and instruction: raising open mindfulness around the results of mixed up e-waste transfer is principal. preparing campaigns can energize people to embrace mindful electronic utilization behavior and offer reusing tasks.

Efficaciously adapting with the heightening e-waste emergency calls for a combination of mechanical advancements, administrative systems, and around the world collaboration. As we grasp the gifts of time, it's distant basic to prioritize economical hones to moderate the natural affect of electronic squander and clear the way for a cleanser, greener predetermination

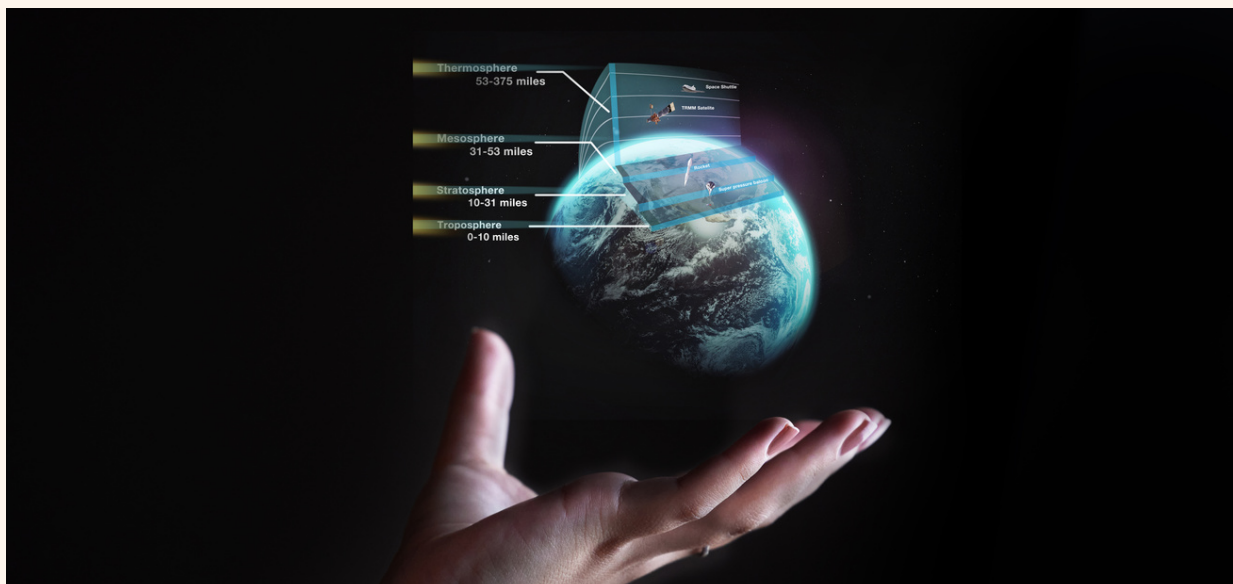
THE IMPACT OF ARTIFICIAL INTELLIGENCE ON ENVIRONMENTAL SCIENCE: A Technical Perspective

As technology continues to advance, the intersection of technical innovation and environmental science becomes increasingly relevant. This article explores the role of artificial intelligence (AI) in addressing environmental challenges and highlights the potential benefits and challenges associated with its implementation

- Remote Sensing and Data Analysis: AI plays a crucial role in analysing vast amounts of environmental data collected through remote sensing technologies. Machine learning algorithms can detect patterns and trends in satellite imagery, helping researchers monitor deforestation, track wildlife populations, and assess changes in land use.
- Climate Modelling and Prediction: Advanced computational techniques powered by AI contribute to more accurate climate modelling and prediction. Climate scientists leverage machine learning to process complex climate data, enabling better forecasting of extreme weather events, understanding climate patterns, and assessing long-term climate trends
- Pollution Monitoring and Control: Technical solutions driven by AI facilitate real-time monitoring of air and water quality. Smart sensor networks equipped with AI algorithms can identify pollution sources, predict potential environmental hazards, and suggest targeted interventions for pollution control and mitigation.
- Conservation and Biodiversity Preservation: AI-powered image recognition and analysis tools aid in monitoring and protecting biodiversity. Automated species identification, based on machine learning models
- trained on vast datasets, assists conservationists in tracking endangered species, monitoring habitats, and implementing effective conservation strategies.
- Sustainable Agriculture Practices: Precision agriculture, enabled by AI technologies, promotes sustainable farming practices. Smart sensors, drones, and AI-driven analytics assist farmers in optimizing resource utilization, minimizing environmental impact, and improving crop yields through precision irrigation, pest control, and crop monitoring.
- Challenges and Ethical Considerations: While AI holds great promise for addressing environmental challenges, it also poses ethical and socio-economic concerns. Issues such as data privacy, algorithmic bias, and the potential for job displacement in traditional industries need careful consideration

The integration of technical solutions, particularly AI, in environmental science offers unprecedented opportunities to understand, monitor, and address environmental issues. Collaborative efforts between technologists, environmental scientists, and policymakers are essential to harness the full potential of these innovations while ensuring responsible and sustainable outcomes.

- SHOHRAT JAHAN MANSOORI
(MSC FIRST YEAR)



QUANTUM TITANS

How Quantum Computers Will Rock Electronics

Imagine a computer chip smaller than your fingernail, blazing through tasks at speeds that would take today's supercomputers years to crack. No, this isn't science fiction, it's the mind-blowing potential of

quantum computers! But before you start dreaming of teleportation and mind-reading (although those are fun to think about), let's dive into the real world of electronics and unravel the mysteries of these remarkable machines.

Think of regular computers like light switches, either on or off (0 or 1). Quantum computers use special switches called qubits that can be both on and off at the same time, like a superfast spinning coin that's blurry because it's both heads and tails! This lets them explore tons of possibilities at once, making them super speedy problem solvers.

But there's more! Imagine two coins linked together, no matter how far apart. Change one, and the other instantly changes too! That's entanglement, and it lets qubits work together like an unbeatable team, tackling problems regular computers can't even dream of.

Imagine stuffing billions of tiny switches onto a fingernail-sized chip - that's how regular computers work. Quantum computers are similar but with millions of "qubits" instead of switches.

These superpowered qubits tackle complex problems like designing drugs or modelling climate change - way beyond checking your email! While the future is exciting, quantum computers won't be replacing your laptop anytime soon.

So, how will these amazing machines change electronics?

Unleashing new possibilities, while not an immediate threat, quantum computers could potentially impact certain encryption methods used for complex financial transactions or highly sensitive government data. This is prompting the development of new, "quantum-resistant" encryption algorithms to stay ahead of the curve.

Building things better, imagine figuring out the best way to build electronics from start to finish, from picking the perfect materials to finding any tiny flaws. Quantum computers can help optimize entire production lines, making things faster, cheaper, and more eco-friendly.

It's still early days, and these qubits are a bit tricky to work with. But with every discovery, the future looks bright! So next time you hear about quantum computers, remember they're not just science fiction, they're the future of electronics, ready to change the world in mind blowing ways.

-Mohit Chauhan (BTech first year)

COMPUTER SCIENCE

A GATEWAY TO INNOVATION AND PROGRESS

Computer Science is a dynamic field that has revolutionized the way we live, work, and communicate. It encompasses the study of algorithms, data structures, programming languages, and the design and analysis of computer systems. This essay explores the significance of computer science in today's world, its impact on various industries, and the evolving landscape of this ever-expanding discipline.

At its core, computer science is about problem-solving. Algorithms, the step-by-step procedures for solving specific problems, are the backbone of this field. They enable the development of efficient software, powering applications that range from simple mobile games to complex artificial intelligence systems. As technology advances, so does the need for skilled computer scientists who can create innovative solutions to challenges across diverse domains.

The influence of computer science extends far beyond the realm of software development. It plays a crucial role in shaping the future of healthcare, finance, education, and many other sectors. In healthcare, for instance, computer science facilitates the analysis of massive datasets to discover patterns and trends, aiding in disease diagnosis and treatment. Financial institutions leverage algorithms for risk assessment, fraud detection, and algorithmic trading. Educational technology, powered by computer science, enhances learning experiences through interactive platforms and personalized content.

The field is characterized by continuous evolution. New programming languages, frameworks, and technologies emerge, driving innovation and expanding the possibilities of what computers can achieve. Machine learning and artificial intelligence, subfields of computer science, are at the forefront of this evolution.

They enable computers to learn from data, make predictions, and perform tasks that traditionally required human intelligence. From voice assistants to self-driving cars, these advancements are reshaping industries and society as a whole.

The interdisciplinary nature of computer science is evident in its intersection with fields like cybersecurity, bioinformatics, and robotics. Cybersecurity specialists work to safeguard digital systems from malicious attacks, addressing the growing concerns of data breaches and cyber threats. Bioinformatics combines biology and computer science to analyze biological data, advancing our understanding of genetics and aiding drug discovery. Robotics, an integration of computer science and engineering, has led to the development of autonomous drones, surgical robots, and smart manufacturing systems.

As computer science continues to evolve, ethical considerations become increasingly important. Issues such as data privacy, algorithmic bias, and the societal impact of automation require careful examination. Computer scientists must be mindful of the consequences of their work and actively engage in discussions about responsible innovation.

In conclusion, computer science is a driving force behind the technological advancements that shape our modern world. Its applications are diverse and span across numerous industries, influencing the way we live and work. As we navigate the future, the role of computer science in fostering innovation, solving complex problems, and addressing ethical concerns will only become more critical. Embracing the challenges and opportunities within this dynamic field ensures a future where technology continues to enhance our lives and propel us towards new frontiers of discovery.

-MINHAL SADI (BTECFIRST
YEAR)



NAVIGATING THE SKIES SUSTAINABLY: **THE GREEN REVOLUTION** IN AVIATION

The aviation industry, a cornerstone of global connectivity, is facing an imperative shift towards sustainability. As concerns about climate change intensify, the environmental impact of air travel has come under scrutiny. Green aviation, a concept centered around reducing the carbon footprint and promoting eco-friendly practices, has emerged as a critical focus for the aviation sector.

One of the primary challenges addressed by green aviation is aircraft emissions. Traditional aviation relies heavily on fossil fuels, contributing significantly to greenhouse gas emissions. The industry is actively exploring sustainable aviation fuels (SAFs) derived from renewable sources, such as biofuels, to mitigate its environmental impact. Research and development efforts are underway to enhance the efficiency and scalability of SAFs, paving the way for a more sustainable fuel alternative.

In addition to alternative fuels, the development of electric and hybrid-electric aircraft is gaining momentum. These innovative technologies aim to reduce or eliminate reliance on traditional aviation fuels altogether. Electric propulsion systems have the potential to revolutionize short-haul flights, providing a cleaner and quieter means of air transportation.

Efforts to improve aircraft design for fuel efficiency and reduce weight are also integral to green aviation. Advancements in aerodynamics, materials science, and manufacturing processes contribute to the development of more eco-friendly aircraft. Airlines are investing in modern fleets equipped with fuel-efficient engines, resulting in reduced emissions per passenger mile.

Beyond the skies, sustainable practices extend to airport operations. Airports are adopting eco-friendly infrastructure, incorporating energy-efficient technologies, and implementing waste reduction programs. The optimization of ground operations, such as efficient taxiing and reduced turnaround times, contributes to minimizing the overall environmental impact of aviation.

The commitment to sustainability is not solely driven by environmental concerns; it is increasingly becoming a business imperative. Airlines are recognizing the value of eco-friendly practices in meeting customer expectations and regulatory requirements. Passengers are showing a growing preference for environmentally conscious travel options, prompting airlines to embrace sustainability as a competitive advantage.

However, the journey towards green aviation is not without challenges. The scalability and cost-effectiveness of sustainable aviation solutions remain critical considerations. Industry stakeholders, including governments, aviation companies, and research institutions, must collaborate to overcome barriers and drive the widespread adoption of green aviation technologies.

In conclusion, sustainability and green aviation are not mere buzzwords but essential pathways to a cleaner and more responsible future for the aviation industry. The ongoing efforts to reduce emissions, embrace alternative fuels, and develop innovative technologies underscore a commitment to balancing the skies' marvels with a conscientious approach to environmental stewardship. As the aviation sector navigates towards a more sustainable future, it is poised to set an inspiring example for industries worldwide, demonstrating that innovation and responsibility can coexist in the quest for cleaner skies.

- ATIYA (FIRST YEAR)



Faculty of Engineering and Technology, JMI

Placement Statistics

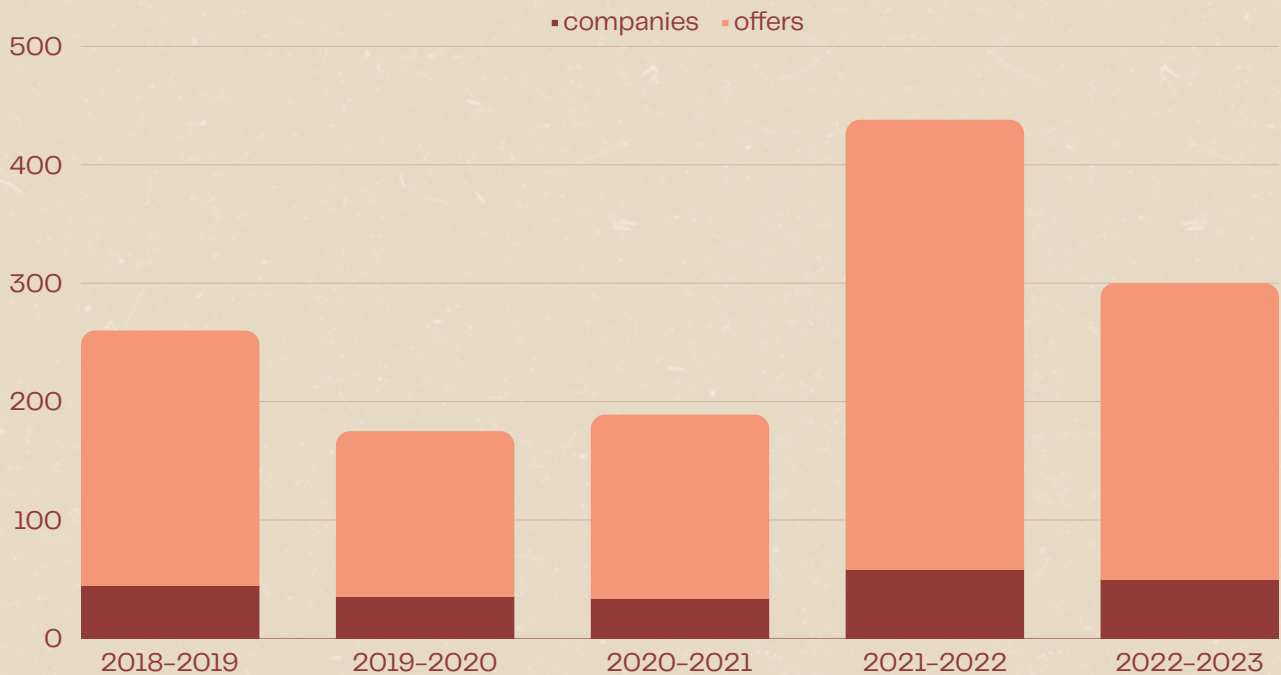
2022-2023

In recent years, the technological revolution and globalization forces have altered the functionality of organizations. We at Jamia Millia Islamia strive to equip our students with the confidence to move forward; to embrace change rather than react to it, to innovate rather than remain stagnant, and to initiate rather than respond, allowing them to become competent managers and dynamic entrepreneurs in a rapidly changing economic and industrial environment.

Jamia Millia Islamia (JMI) has had significant growth in campus placements, demonstrating the institution's dedication to offering quality education and preparing students for successful professions. The number of organizations participating in campus recruitment efforts has increased significantly throughout the years. This rise reflects the increasing demand for Jamia Millia Islamia graduates in the job market, demonstrating the institution's ability to generate skilled and employable professionals.



No. of Companies vs No. of Offers

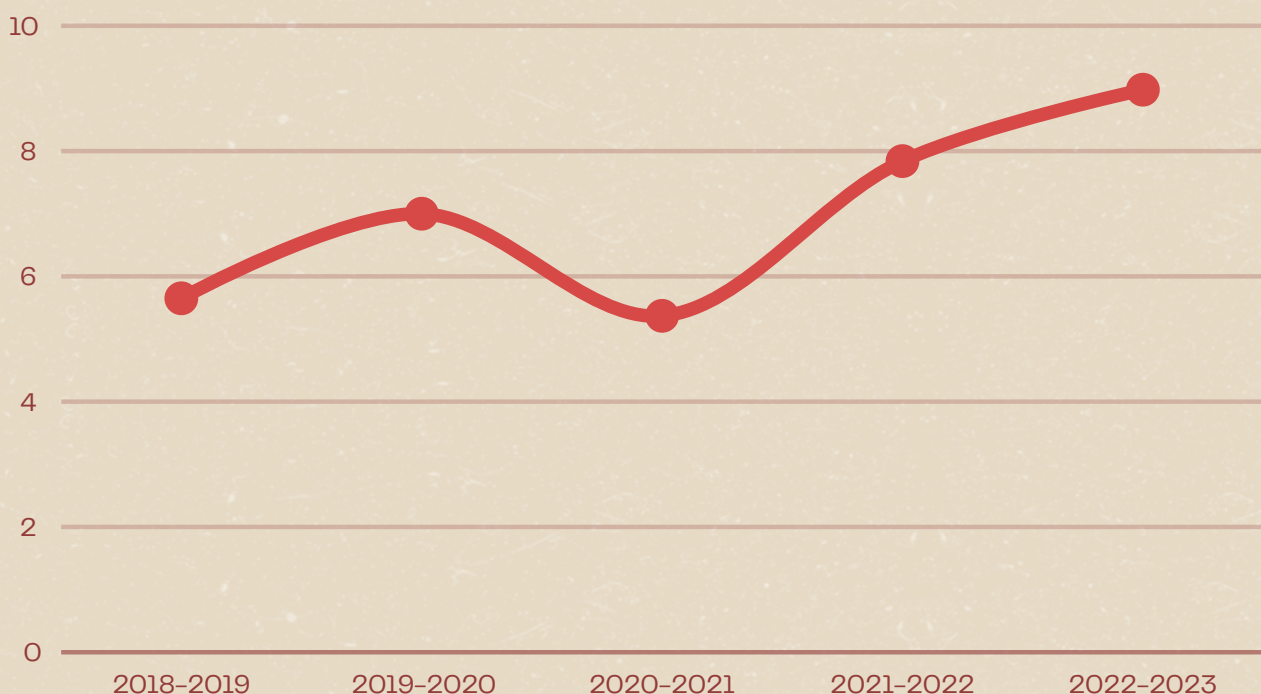


The importance of campus postings at JMI goes beyond mere numbers. It bridges the gap between academia and industry, ensuring that students have the practical skills and knowledge required in today's changing workplace. The university's proactive approach to developing solid relationships with corporate partners has aided the success of its placement program. These collaborations not only permit internships but also result in direct recruiting, promoting a mutually advantageous relationship between the institution and the corporate world.

The success stories of Jamia Millia Islamia alumni highlight the university's successes in campus placement. Graduates from a variety of disciplines have obtained positions of responsibility and made major contributions to their respective fields. This track record of achievement has not only boosted the university's prestige but has also pushed current students to strive for distinction in their academic and extracurricular activities.

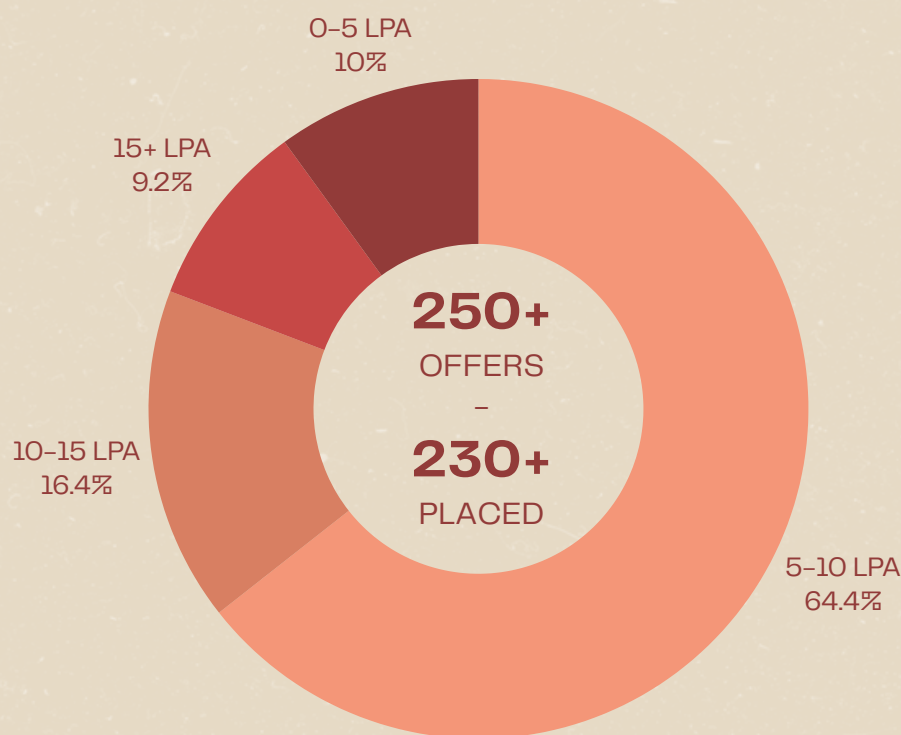
The university's placement cell has played an important role in arranging and directing the placement process, serving as a liaison between students and possible employers. The placement cell prepares students for professional life's problems through workshops, training sessions, and skill development programs. This comprehensive strategy has not only resulted in strong placement rates but has also ensured that students are well-prepared for the competitive job market.

Avg Package vs Year (LPA)



JMI's commitment to holistic development is demonstrated by its emphasis on entrepreneurship and innovation, in addition to placements in established areas. The institution encourages students to discover and pursue business opportunities by offering incubation centers and mentorship programs. This emphasis on creating an entrepreneurial mindset adds another layer to Jamia Millia Islamia's campus placement successes, demonstrating a dedication to producing job creators rather than job seekers.

CTC STATISTICAL RECORD (2022-23)



AVERAGE CTC (LPA)

8.98

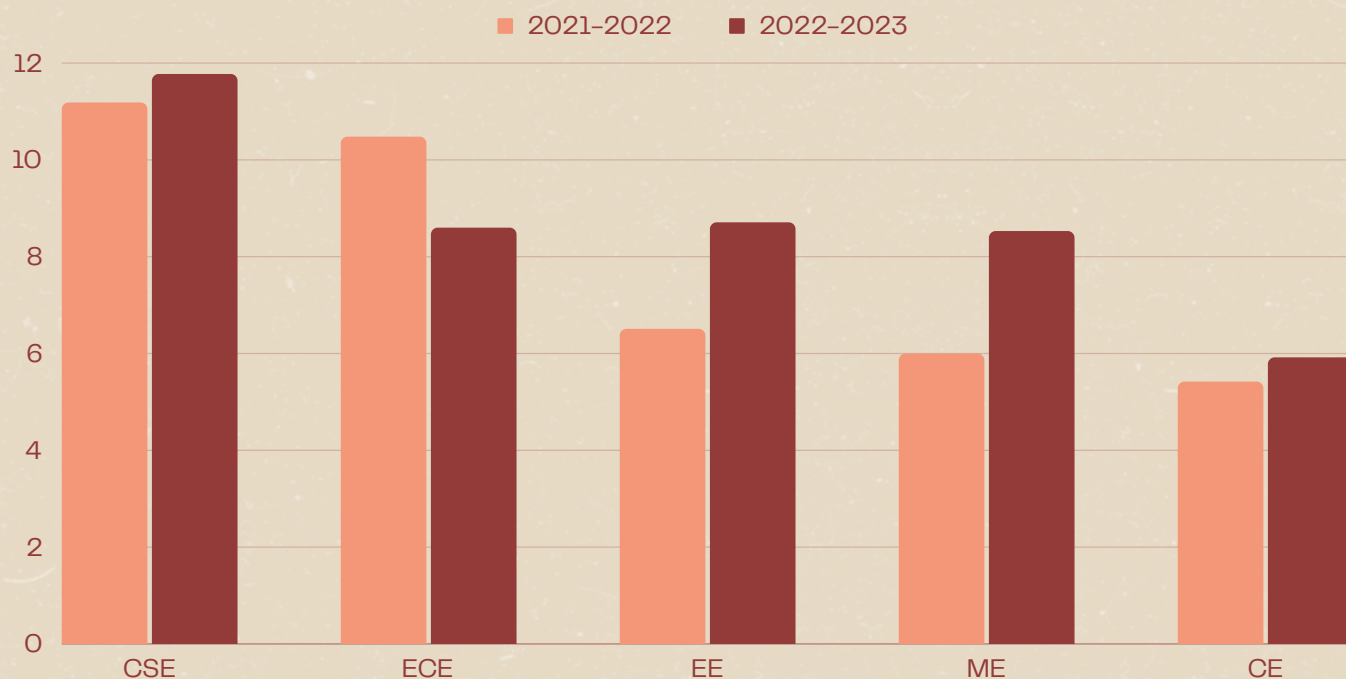
HIGHEST CTC (LPA)

21

MEDIAN CTC (LPA)

7.2

Avg CTC (Branch Wise)



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