NAGAR YUWAK SHIKSHAN SANSTHA'S

YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING

(AN AUTONOMOUS INSTITUTION AFFILIATED TO RTMNU)

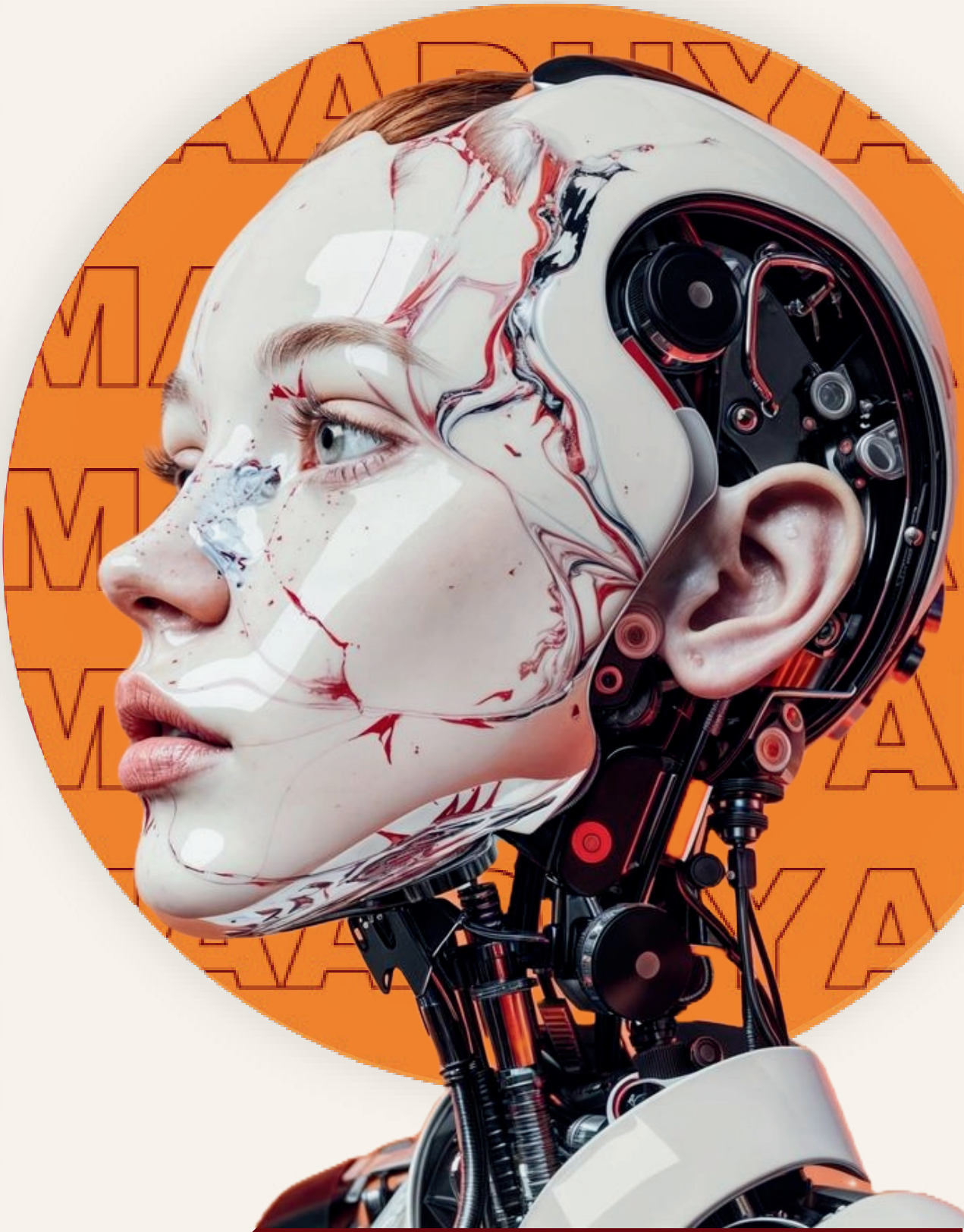
HINGNA ROAD, WANADONGRI , NAGPUR. 441110

MEGHE GROUP
VALUES REDEFINED

MAADHYAM

DEPARTMENT OF INFORMATION TECHNOLOGY

2025



Celebrating 40 years of excellence, Yeshwantrao Chavan College of Engineering, Nagpur, stands tall as a beacon of knowledge and innovation. Over the past four decades, YCCE has nurtured countless minds, driven impactful change, and built a legacy of academic brilliance and societal contributions. As we mark this Ruby Jubilee, we honor the unwavering dedication of our faculty, the achievements of our students, and the support of our alumni and community. Here's to continuing this journey of excellence and shaping brighter futures. Happy 40 years, YCCE.

मार्गदर्शक

HON'BLE Shri DATTAJI MEGHE

Chairman,
Nagar Yuwak Shikshan Sanstha

Shri. RAVIJI MEGHE

Secretary
Nagar Yuwak Shikshan Sanstha

Shri. SAMEER MEGHE

MLA-Hingna Constituency, Nagpur
Treasurer, Nagar Yuwak Shikshan Sanstha

Smt. VRINDA MEGHE

Chief Advisor,
Meghe Group Of Institutes

Dr.U.P.Waghe

Principal

Yeshwantrao Chavan College Of Engineering

Message from Principal's Desk

Congratulations to the editorial team for bringing out the departmental magazine "MAADHYAM".

Their determination and enthusiasm in releasing this issue is a milestone for us at YCCE. The objective of education is to prepare the young to educate themselves throughout their lives. True education indeed paves the path for the students to learn new things correctly. It helps them broaden their perspectives and enrich their knowledge to face the globally competitive era.

Our students are showcasing their literary talents and writing skills through this magazine and proving to themselves their hitherto untapped talent. Ventures such as this magazine and the other co-curricular activities are directed toward inculcating a sense of responsibility and creating sensitive and versatile professionals of the future.

So, my dear students, along with academics, avail of the various opportunities, arid participate wholeheartedly in every project that comes your way.

Dr. Manali Kshirsagar

Director,Technical & Advisor
MGI, Nagpur

Message from Technical Director

Dear Students,

As we delve into this edition of Maadhyam – the Medium, I am sure this magazine will prove to be the medium to communicate the intersection of technology and design that shapes our fields to all the stakeholders. The rapid advancements in both Information Technology and Computer Science and Design present exciting opportunities for you to explore and innovate.
Keeping abreast with all the changes and developments in your field is essential. You can do it by being knowledge hungry, learn new skills, and help the society by solving real world problems.

Key Technologies for IT and CSD Students Technologies to Explore

- Artificial Intelligence (AI)
- Machine Learning (ML):Familiarize yourself with frameworks like TensorFlow and PyTorch.
- Cybersecurity
- Cloud Computing: Gain insights into platforms like AWS, Azure, and Google Cloud.
- Block chain: Study decentralized technologies for secure transactions and smart contracts.
- Internet of Things (IoT)
- Edge Computing
- Extended Reality (XR): Explore Augmented Reality (AR) and Virtual Reality (VR) technologies for immersive experiences.

Design-Related Technologies

- User Experience (UX) Design: Embrace trends like hyper-personalization, where AI adapts interfaces based on user behaviour.
- User Interface (UI) Design: Explore interactive 3D elements that engage users in new ways.
- Voice User Interfaces (VUIs): Implement voice commands in applications to enhance user engagement.
- Proactive UX Design
- Sustainable Design Practices: Incorporate eco-friendly design principles that reduce energy consumption and promote ethical use of data.

Recommended Programming Languages

- Python: Essential for AI, ML, data analysis, and web development due to its versatility.
- Java: Important for enterprise applications, Android development, and large-scale systems.
- JavaScript: Crucial for web development, enables dynamic content creation through frameworks like React or Angular.
- C++: Valuable for system-level programming, game development, and performance-critical applications.
- C#: Commonly used in developing Windows applications and games with Unity.
- SQL: Critical for database management, used for query relational databases effectively.
- R: Important for statistical analysis and data visualization in data science projects.
- Swift: Key language for iOS app development, gaining traction among mobile developers.

By embracing these technologies and programming languages, you will be well-prepared to tackle the challenges in both IT and design. This edition of Maadhyam highlights the importance of integrating knowledge across disciplines to foster innovation and creativity in your work. Wishing you all a productive journey ahead.

Happy reading!

Dr. R.C.Dharmik

Head OF Department
Information Technology

Message from HOD's Desk

A sincere congratulations to our exceptional editorial team for crafting the latest edition of our department's magazine. The collaborative effort behind its creation is praiseworthy, reflecting the rich tapestry of talents within our academic community.

Seamlessly integrating technology and artistic expression, the magazine navigates contemporary trends like AR/VR and gamification. Guided by our dedicated faculty, our department stands proudly as a stronghold of academic excellence, offering state-of-the-art facilities for hands-on exploration of emerging technologies.

Gratitude to our valued contributors for their exceptional work in the magazine, showcasing diverse talents. It stands as a formal tribute to creativity, innovation, and academic excellence, pushing boundaries. Thanks to all for your integral role.

Mrs. Chandrayani Rokde

Faculty Incharge

Message from Magazine Incharge

It gives me immense pleasure to present "Maadhyam" yearly magazine of Information Technology Department. Maadhyam is an elusive boundary of faith, trust, worthiness and affection. It is the talent and outcome of our students which is reflected through this.

This is one of the best platforms for our students to present multifaceted personalities and innovative ideas. Our magazine is a balanced collection of technical activities, placement progress, departmental activities, poems, stories, academic achievements etc.

I take this as an opportunity to thank our respected Principal Dr.U.P.Waghe and Dr.R.C.Dharmik, Head of Information Technology Department for having faith in me and giving me opportunity to work as an incharge of the magazine.

I thank all the students for their wonderful response and enthusiastic participation without whom this would not have been possible. Last but not the least I thank and congratulate the editorial team without whom this would be a dream only. I respect their efforts and I'am really proud of them.

Ms. RITA R. BHAWALKAR

Magazine Co-Incharge

Message from Magazine Co-Incharge

It gives me immense pleasure to present the annual magazine of the Information Technology Department, Maadhyam. This publication is a testament to the creativity, dedication, and talent of our students, serving as a platform to celebrate their achievements, ideas, and aspirations.

Maadhyam encapsulates the diverse facets of our departmental journey, from technical milestones and placement achievements to literary expressions and academic excellence. It mirrors the collective efforts of our vibrant community and highlights the essence of innovation, teamwork, and perseverance.

I extend my sincere gratitude to our Principal, Dr. U.P. Waghe, and our Head of Department, Dr. R.C. Dharmik, for their unwavering support and guidance throughout this endeavor. My heartfelt appreciation goes to our students, whose enthusiastic contributions have made this magazine a reality, and to the dedicated editorial team for their hard work and creative energy in bringing this project to fruition.

Let Maadhyam serve as a source of inspiration and motivation for all, fostering a culture of continuous learning, exploration, and growth within our department.

Mr. AMOL.D.GAIKWAD

Student Activity Incharge

Message from Student Activity Incharge

A single desire sparks a thought, a decision sets the path, but unwavering determination turns dreams into reality."

This magazine is a celebration of the creativity and achievements of our students and faculty. It reflects their passion, hard work, and dedication. I applaud the editorial team for the hard work and dedication they have invested in realizing this goal through the medium of magazine. This gives an all-around a platform to showcase the student's talent and expose their creativity at its best.

Being the student activity, Incharge I am glad that many of the students have participated in many inter-collegiate competition and won over many prizes. With this publication, let us develop ourselves to achieve our goals.

The right attitude and the right perception connect us to good things and good results in life. Do not compare yourself with others and do not get disturbed with their criticism. Just keep doing well with the best of your abilities.

Mr.Somesh Sharma
Magazine Head

Message from Magazine Head

It is with great pride and enthusiasm that we welcome you to this edition of Maadhyam, our departmental magazine. In a world where technology evolves at an unprecedented pace, our magazine stands as a bridge to connect ideas, foster creativity, and share knowledge within our vibrant IT community.

Maadhyam is not just a magazine, it is the voice of ideas, the pulse of creativity, and the heart of a community. Through this magazine, we aim to showcase the intellectual brilliance, technical expertise, and creative talents of our department. From thought-provoking articles and cutting-edge technical insights to evocative poetry, every contribution reflects the dedication and passion of our contributors.

The steadfast support of Dr. R.C. Dharmik Sir and the insightful guidance of Prof. Chandrayani Rokde Ma'am have been instrumental in shaping MAADHYAM's journey to excellence, with the design team transforming it into a visual masterpiece.

A heartfelt thanks to the entire team for their contributions, together we strive to keep maadhyam as a true reflection of the brilliance within our department.

Ms.Taniya Borkar
Magazine Head

Message from Magazine Head

After the phenomenal success of Maadhyam 2024, we embark on an even more exciting journey this year, redefining creativity and innovation within the IT community at YCCE. Maadhyam is not just a magazine, it' s a vibrant canvas showcasing the brilliance, intellect, and passion of our students and faculty. Each page reflects the essence of our department, portraying a dynamic blend of technology and artistry that inspires and unitesus.

This success wouldn't have been possible without the unwavering support of Dr. R.C. Dharmik Sir and Prof. Chandrayani Rokde Ma'am. Their guidance and encouragement have been pivotal in elevating Maadhyam to the heights it has reached today. A special thanks to the entire Maadhyam team the backbone of this journey. Your hard work, passion, and dedication have been the driving force behind every achievement and it's all because of you that Maadhyam continues to shine as a beacon of excellence.

As we navigate this new chapter, let's remember that Maadhyam is more than just a publication, it's a testament to the innovation and collective brilliance of our IT community. Together, we will continue to create a legacy of excellence, leaving an indelible mark on our academic and creative spheres. Here's to another year of pushing boundaries and redefining possibilities- let Maadhyam 2025 continue to illuminate the innovative spirit and technological brilliance that define us!

Ms.KASHMIRA CHAOJI
MAGAZINE HEAD

Message from Magazine Head

We are thrilled to present this edition of Maadhyam, our beloved departmental magazine, which continues to be a platform for sharing ideas, creativity, a space where innovation meets expression, showcasing the unique brilliance and talents of our department. Maadhyam represents the collective voice of innovation, the rhythm of creative expression, and the spirit of collaboration. This platform showcases the intellectual prowes, technical mastery, and artistic brilliance that define our department. From insightful technical articles and pioneering research to soul-stirring poetry, captivating paintings, and stunning photography, each contribution mirrors the passion and commitment of our talented contributors. The technical articles offer exploring emerging technologies, innovative projects, and real-world applications, reflecting the depth of knowledge and expertise within our community. Together, these elements make Maadhyam a true celebration of creativity, intellect, and talent.

We are deeply grateful for the unwavering support of Dr. R.C. Dharmik Sir and the invaluable guidance of Prof. Chandrayani Rokde Ma'am. Their vision and mentorship have played a pivotal role in shaping Maadhyam into the thriving platform it is today.

A big thank you to the entire Maadhyam team for their hard work and dedication. Their collaborative spirit, attention to detail, and passion for excellence. Together, we ensure that this magazine continues to be a true reflection of the innovation and creativity within our department.

Here's to another edition that sparks ideas and celebrates our shared journey of growth and discovery! We hope you enjoy reading this edition as much as we enjoyed creating it!

WELCOME TO
YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING NAGPUR

Vision of Institution

"To become the most preferred institution providing innovative, research and value based, professional education for the society at large".

Mission of Institution

- Attract best talent and create learning ambience.
- Practice Innovative teaching-learning & research.
- Integrate Industry-Institute Collaborations.
- Nurture students towards holistic development and choicest career.

WELCOME TO
DEPARTMENT OF INFORMATION TECHNOLOGY, YCCE, NAGPUR

Vision of the Department

To become a well-recognized destination of academic excellence for pursuing Information Technology.

Mission of the Department

To shape competent, responsible, ethical Information Technology professionals in a facilitative learning environment by inculcating out of box thinking, computational skills and problem- solving abilities.

PROGRAM EDUCATIONAL OBJECTIVES OF THE PROGRAM (PEO)

- PEO 1 – To prepare students to succeed in employment, profession and/or to pursue postgraduate education in Information Technology discipline in particular and allied engineering disciplines in general.
- PEO 2 – To provide students with a solid foundation in mathematical, scientific and engineering fundamentals required to formulate, analyze and solve engineering problems related to Information technology in particular and engineering practice in general.
- PEO 3 – To train students with good scientific and engineering breadth so as to innovate, design and create systems and to contribute in providing solutions to real-life problems.
- PEO 4 – To inculcate in students professional attitude, effective communication skills and teamwork to become a successful professional in global perspective.
- PEO 5 – To provide student with an academic environment aware of excellence, ethics, transparency, leadership and to promote awareness of life-long learning.

PROGRAM OUTCOMES OF UNDERGRADUATE COURSE (PO'S)

- PO1- Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.
- PO2- Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development.
- PO3- Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required.
- PO4- Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions.
- PO5- Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems.

- PO6- The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment.
- PO7- Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws.
- PO8- Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.
- PO9- Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences
- PO10- Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.
- PO11- Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies

PROGRAM SPECIFIC PROGRAM OUTCOMES (PSPOS/PSOS)

- PSO 1 – The students will be able to Explain and apply the core concepts of Information Technology , principles and Tools to implement IT systems effectively.
- PSO 2 – The students will be able to integrate broad engineering and interdisciplinary knowledge into IT systems.

Table of Contents

01 Technical Section

02 Non-Technical Section

03 Poetry Section

04 Art Section

05 Photography Section

06 Placements

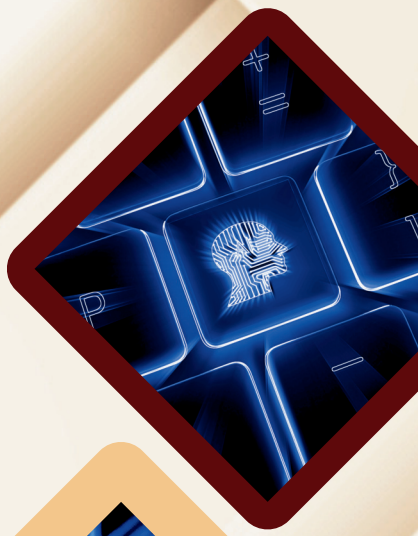
07 Itechroots 14.0

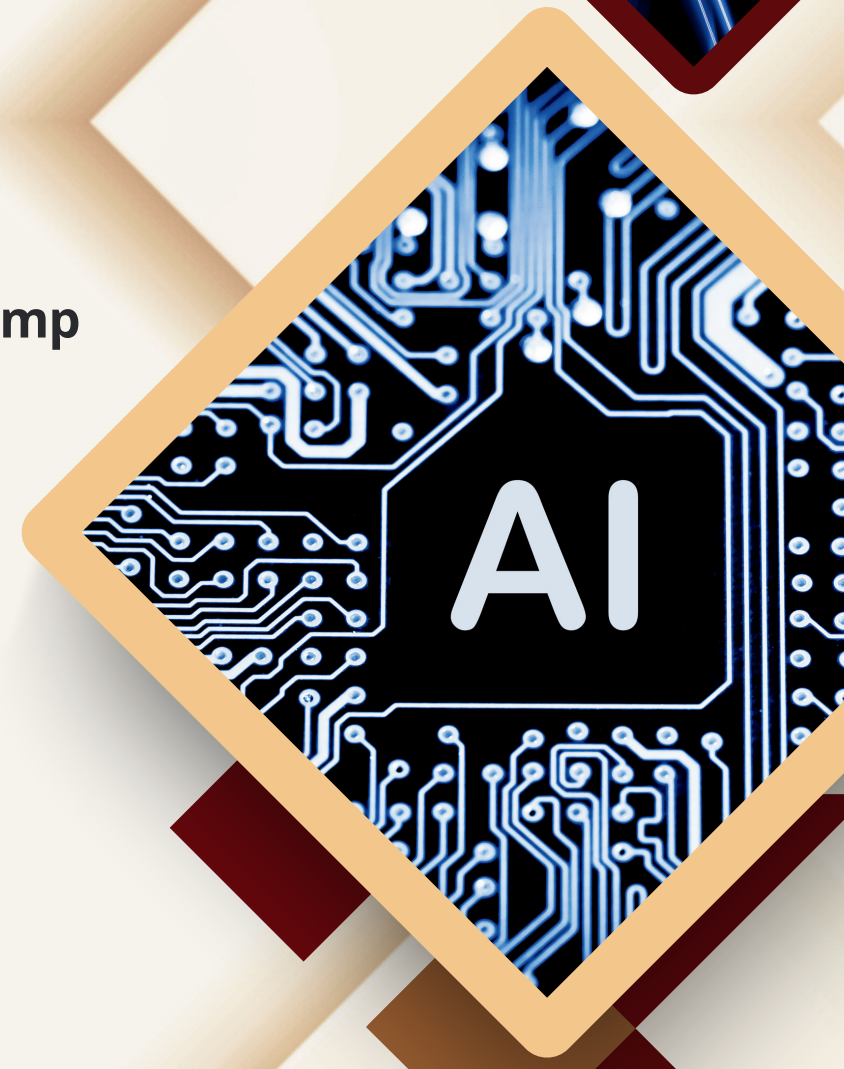
08 Industrial Visits

09 Blood Donation Camp

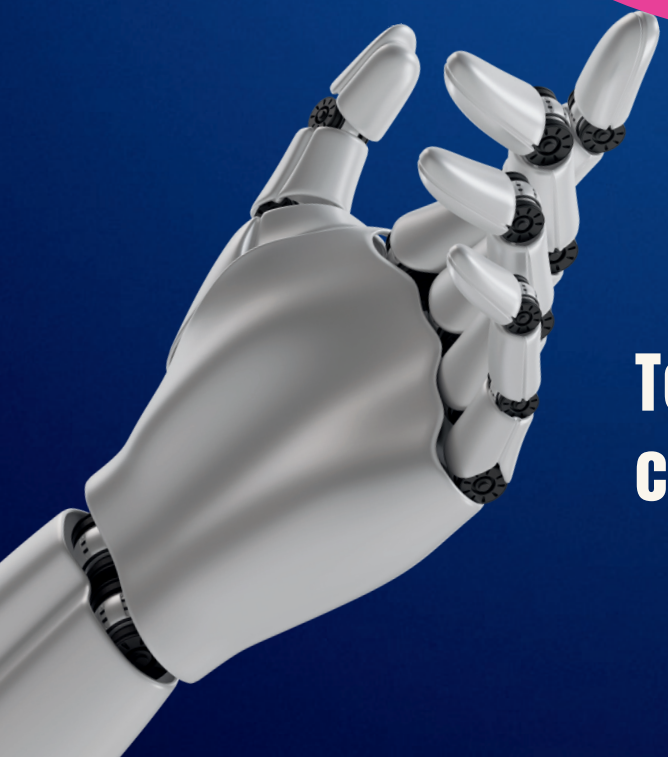
10 IT Faculty

11 Team Maadhyam





Technical Section



Technology is the bridge that connects imagination to reality.

How to Limit Smartphone Use and Focus on Studies

In today's digital age, smartphones have become an essential part of our daily lives. They help us stay connected, access information, and entertain ourselves. However, for everyone in the society across various age groups and professions, the overuse of smartphones has become a major distraction. Especially for students, when it comes to focusing on studies, the situation is worsening day by day worldwide.

It is found that everyday an undergraduate student spends about three to five hours of his/her time on the social media platforms like Facebook, WhatsApp, Instagram, YouTube, etc. It's easy to get caught up in endless scrolling through social media, checking notifications, and watching videos, but this can take a toll on academic performance. If you're struggling to balance your smartphone use and academic goals, here's how you can limit smartphone use and enhance your focus on studies.

1. Acknowledge the Problem

The first step is to acknowledge the issue. Smartphones are designed to grab your attention with constant notifications, messages, and updates. Recognize that this constant engagement can disrupt your concentration and productivity. Being aware of the impact smartphones have on your studies is the foundation for creating a solution.

2. Set Clear Goals and Priorities

Before you dive into your studies, it's essential to define your academic goals. Know what tasks need to be completed, how much time you need to dedicate to each, and the deadlines you're working towards. This will help you stay focused and give you the motivation to stay off your phone during study time. Setting clear priorities can help you avoid wasting time on non-academic activities when you should be studying.

3. Designate Smartphone-Free Study Times

One of the most effective ways to limit smartphone use is to designate specific times when your phone is off-limits.

For example, you could decide that during a 2-hour study session, your smartphone will stay in another room or be turned off. By setting these boundaries, you create an environment conducive to studying without the temptation to check your phone constantly.

4. Use Smartphone Features to Your Advantage

Smartphones come with a range of features designed to help you stay focused. Many phones have “Do Not Disturb” modes or “Focus” modes that silence notifications and limit distractions. You can also set app usage limits for specific apps like Instagram, Facebook, or YouTube using built-in settings or third-party apps like “Forest” or “Freedom.” These tools can help reduce your temptation to check your phone during study sessions.

5. Organize Your Study Space

A cluttered environment can contribute to mental distractions. Ensure that your study area is free of unnecessary distractions, including your smartphone. Place your phone out of sight, preferably in a drawer or in another room. By removing the temptation entirely, you create a more focused environment for learning.

6. Practice the Pomodoro Technique

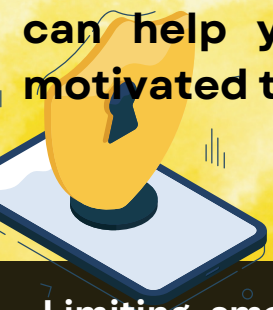
The Pomodoro Technique is a time management method that involves studying for 25 minutes, followed by a 5-minute break. After four cycles, you take a longer break of 15-30 minutes. This method helps you stay focused while giving your mind time to rest and recharge. During the 25-minute study period, commit to keeping your phone completely out of sight. You can check your phone during your breaks, but only for a few minutes to prevent it from becoming a distraction.

7. Turn Social Media into a Reward, Not a Habit

One common pitfall for students is using social media as a constant source of entertainment. Instead of checking your phone out of habit, consider turning it into a reward system. For instance, after completing a study task or after an hour of focused study, reward yourself with 10-15 minutes of social media time. By using social media as a reward, you ensure that it doesn't interfere with your academic priorities.

8. Find Alternative Sources of Motivation

It's easy to get sidetracked when you're feeling unmotivated or stressed. Instead of turning to your phone for a distraction, look for other ways to boost your motivation. This could be listening to instrumental music, practicing mindfulness, or using study apps that keep you focused, such as "Focus Booster" or "To do list." Having a few strategies in place can help you stay engaged and motivated to study.



9. Set Boundaries with Friends and Family

Sometimes, the pressure to reply to messages or be available to friends and family can distract you from your studies. Let those close to you know that you're prioritizing your studies and may not be available during certain hours. Setting boundaries and explaining your academic goals will help others respect your time and reduce unnecessary distractions.

10. Develop Self-Discipline Gradually

Finally, it's important to remember that limiting smartphone use requires self-discipline, and like any skill, it takes time to develop. Don't be too hard on yourself if you slip up occasionally. Instead, focus on making gradual improvements. Start by limiting phone use during study hours and progressively work toward reducing screen time throughout the day.

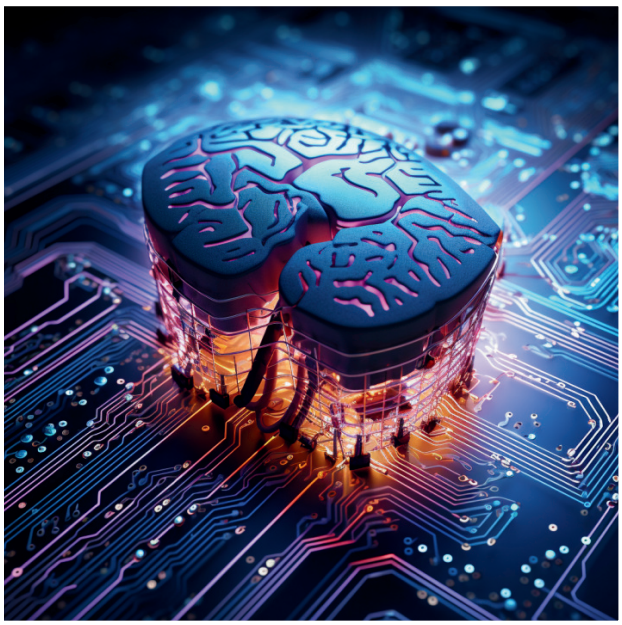
Limiting smartphone use is not about completely cutting off the digital world; rather, it's about finding a balance that works for you. With consistent effort and self-control, you can maximize your productivity and achieve your academic goals by balancing smartphone use and your academic and other essential activities .

-Dr. Kishor K. Bhoyar

The Future of Computing : Inspired by the Human Brain

Neuromorphic computing is a groundbreaking approach to designing computer systems that mimic the structure and functions of the human brain. Using artificial neurons and synapses, these systems process information as efficiently as the brain, overcoming the limitations of traditional computing.

What makes neuromorphic computing fascinating is its brain-inspired hardware and algorithms, often modeled after the neocortex the brain's region for advanced cognitive functions. A key feature is the use of spiking neural networks (SNNs), which transmit information like biological neurons.



Artificial synaptic devices connect these neurons, enabling efficient signal transmission. Unlike traditional neural networks that rely on software, spiking neural networks are implemented as hardware, making them highly efficient for specialized tasks.

Neuromorphic computing has immense potential to transform industries. In healthcare, for instance, it can analyze complex medical data like imaging and genetics to detect diseases such as cancer with remarkable accuracy. It excels in pattern recognition, decision-making, and learning from new data just like a human brain.

How can neuromorphic computing improve our daily lives? One way is through smarter, energy-efficient devices. Imagine smartphones that adapt to your habits or home systems that predict your preferences. Neuromorphic chips make these possibilities faster and less power-hungry than current technologies.

This technology could also revolutionize artificial intelligence, robotics, and cybersecurity. Robots could learn and adapt to their surroundings, and AI systems might process data in ways mimicking human thought. Such advancements promise smarter, faster, and more efficient systems.

What about ethics? As machines become more human-like in decision-making, it's vital to establish ethical boundaries. How should they handle sensitive data or make impactful decisions? Clear guidelines and safeguards are necessary to ensure this technology benefits society responsibly.

As researchers push the boundaries of neuromorphic technology, its future looks bright. This brain-inspired design isn't just about efficiency, it's about redefining how we interact with technology. Neuromorphic computing promises smarter solutions and new possibilities, shaping a future where machines truly collaborate with us to solve the world's toughest challenges.

-Somesh Sharma

DIGITAL TWIN TECHNOLOGY: THE CONVERGENCE OF VIRTUAL AND REALITY

In today's fast-paced digital landscape, digital twin technology is revolutionizing industries by merging the physical and virtual worlds.
Imagine a virtual counterpart of a jet engine, replicating its real-time operations with such accuracy that potential faults are detected before they occur. Or a smart city that optimizes traffic flow and energy usage through a real-time digital twin of its infrastructure.
These aren't just concepts they're realities driving the fourth industrial revolution..

The Anatomy of a Digital Twin

Unlike traditional simulations, a digital twin is dynamic, powered by real-time data streams from IoT sensors, machine learning algorithms, and cloud computing. It evolves in tandem with its physical counterpart, capturing minute changes, predicting outcomes, and enabling proactive interventions. This convergence of advanced analytics and real-time monitoring transforms static models into living digital ecosystems.

REAL-WORLD APPLICATIONS OF DIGITAL TWINS :

1. Manufacturing: Boeing's Smart Simulations

Boeing employs digital twins to streamline aircraft design and testing. Virtual replicas of planes undergo simulations to optimize aerodynamics, fuel efficiency, and safety, cutting development costs and reducing errors. Similarly, General Electric uses digital twins for gas turbines and jet engines, enabling predictive maintenance and reducing downtime by 30%.

2. Healthcare: Personalized Medicine

Dassault Système's Living Heart Project demonstrates the transformative power of digital twins in healthcare. Virtual replicas of human organs enable doctors to simulate surgeries and design patient-specific treatments. Hospitals, leveraging these twins, optimize workflows and enhance patient outcomes, making healthcare more predictive and efficient.

3. Smart Cities: Singapore's Virtual Model

Singapore's Virtual Singapore initiative exemplifies how digital twins can optimize urban planning. The 3D digital twin of the city integrates real-time data on traffic, energy, and infrastructure, enabling simulations for disaster response, resource management, and sustainability improvements.

THE FUTURE OF DIGITAL TWINS :

The global digital twin market, valued at $10.3 billion in 2021, is expected to exceed $73 billion by 2027. With advancements in AI and quantum computing on the horizon, the scope of digital twins will expand to include applications like climate modeling, genome sequencing, and even interplanetary exploration.
For instance, NASA has been using digital twin technology to simulate spacecraft performance and predict maintenance needs during missions. This innovation played a pivotal role in the Mars Rover missions, ensuring operational efficiency millions of miles away.

CHALLENGES AND OPPORTUNITIES :

Despite its potential, challenges such as cybersecurity risks, high costs, and skill gaps persist. Collaborative efforts between industries and academia can address these hurdles through better frameworks, reduced costs, and specialized training.

Conclusion

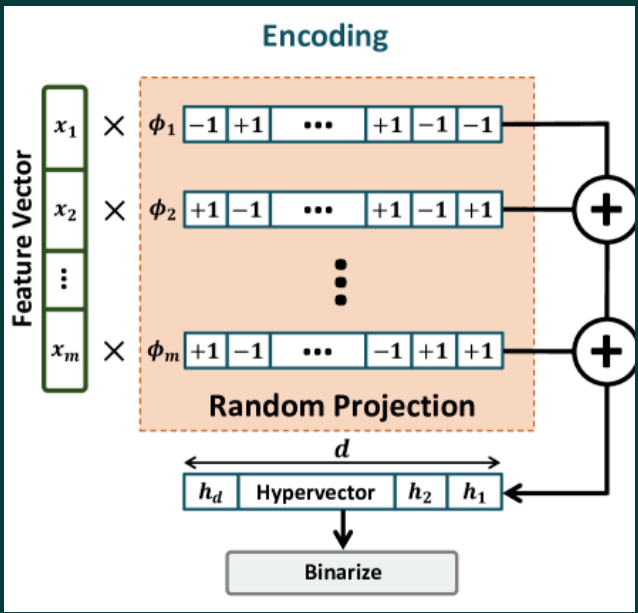
From Boeing's efficient aircraft design to Singapore's sustainable urban planning, digital twins are reshaping how industries operate. By bridging the gap between the physical and virtual, this technology is laying the foundation for a future that's smarter, safer, and more sustainable. The power of digital twins lies not just in their ability to simulate but in their capacity to transform how we interact with and optimize the world around us.

- Taniya Borkar

HYPERDIMENSIONAL COMPUTING: A NEW FRONTIER IN BUSINESS

As the demand for efficient and scalable computing continues, modern systems are reaching their limits in terms of processing big data, fast decision making, and energy efficiency. Inspired by the way the human brain processes information, hyperdimensional computing has emerged as a promising technology that is disrupting computational processes. This article explores the principles, methods, and applications of HDC, a technology that promises to revolutionize fields such as artificial intelligence, robotics, and data security.

Unlike traditional binary or arithmetic, HDC uses hypervectors to encode, process, and store data. Hypervectors typically have thousands of dimensions, allowing them to represent complex data with a high level of redundancy and noise tolerance. This approach is inspired by the brain's neural coding mechanisms, where information is represented in distributed patterns rather than precise locations. For example, in word processing, each unique word can be assigned to a randomly generated hypervector.



HDC provides supervectors that use arithmetic operations such as addition, XOR, or transposition to represent complex data. For example, sentence can be encoded by concatenating hypervectors of individual words to create a vector representing the entire sentence. The resulting hypervectors are stored in memory, and similarity measures such as cosine similarity or Hamming distance are used to compare hypervectors. This leads to classification, pattern recognition, and decision making. Each word, such as "good" or "bad", is randomly assigned a hypervector. Comments, such as "good service", are encoded by connecting single word hypervectors. The resulting vectors are compared with the previous learning set vectors (i.e. positive, negative) to determine the hypothesis of the analysis.

In the field of AI and machine learning, HDC supports the use of valuable and powerful data in self management and real time decision making. In robotics, it facilitates sensory motor coordination, low energy navigation, and object recognition. Healthcare applications include the use of standard recognition for early disease diagnosis and optimization of biomedical signal. In cybersecurity, HDC is used to encode and analyze data to identify vulnerabilities and recognize good models for intrusion detection. It is based on simple operation and distributed representation that minimizes power consumption. An integrated system and tools are needed to implement the HDC algorithm.

Further research is needed to optimize the encoding and measure compatibility for specific applications. Future developments could include hybrid models that combine HDC with modern computational models. As research continues, HDC could redefine the boundaries of technology, creating exciting areas worth exploring and drawing attention to.

-Khushbu Sheikh

EXPLORING THE METAVERSE: A NEW DIGITAL FRONTIER

Imagine stepping into a world where you can attend a concert, meet friends, shop for clothes, or even work all without leaving your living room. This isn't science fiction, it's the metaverse, a virtual universe that blends digital and physical realities. The metaverse is not just one platform but a network of interconnected virtual spaces where people can interact in real time, using avatars to represent themselves.

At its core, the metaverse is powered by technologies like virtual reality (VR), augmented reality (AR), blockchain, and 3D modeling. These tools create immersive environments that feel almost as real as the physical world. Companies like Meta (formerly Facebook), Microsoft, and others are investing billions to build this new digital ecosystem.

So, how does it work in everyday life? Picture putting on a VR headset to teleport into a virtual office for a meeting. Instead of staring at faces on a video call, you and your colleagues are represented by avatars, sharing a virtual whiteboard or brainstorming in a simulated boardroom. It's a new way to collaborate, no matter where you are physically.

Shopping in the metaverse is another fascinating experience. Imagine walking through a virtual mall, browsing digital clothing for your avatar or even ordering physical items to be delivered to your home. Big brands are already experimenting with metaverse stores and virtual fashion shows.

Socializing is also being redefined. Instead of texting or video chatting, you can hang out with friends in a digital park, play games together, or attend live events like concerts. Musicians like Travis Scott and Ariana Grande have already held virtual performances attended by millions, showing the potential for entertainment in the metaverse.

But the metaverse isn't just about fun. It has practical applications too. Educators are exploring how virtual classrooms can make learning more interactive. Imagine dissecting a virtual frog in biology class or walking through a historical site while your teacher explains its significance. The possibilities for immersive education are endless.

However, the metaverse also raises important questions. How will privacy and security be handled in these digital spaces? Will access be equal, or will it favor those who can afford expensive hardware? And how do we ensure that time spent in the metaverse doesn't come at the cost of real-world connections?

Despite these challenges, the metaverse represents a bold new chapter in how we live, work, and play. It's a space where creativity knows no bounds, and the physical limitations of the real world no longer apply. While it's still in its early stages, the metaverse has the potential to re-shape our digital lives in ways we're only beginning to imagine. So, are you ready to take the plunge into this new frontier?

-Riddhi Dongarwar

ETHICAL CONSIDERATIONS IN AI-DRIVEN SPACE EXPLORATION

Ethical considerations in AI-Driven Space exploration refers to the societal norms and human value need to be considered while dealing with space exploration problems using AI. As artificial intelligence is the efficient technology for the space exploration but on the other hand it also disaster due to its lack of intelligence of emotion.

Some of the ethical considerations that need to be addressed to ensure responsible and efficient use of AI in space exploration:

1.Bias in AI system: AI know the most of the data about the land of the earth, less aware about the land of space as compared to earth. There may be a chance of data to be corrupt which leads to worse decision making.

2.Privacy and Safety of Astronauts: AI may take the way too much practical decision which lead to arise the concerns regarding human life, or maybe it can also leaks the data of astronauts like health report, collected data, etc.

3.Autonomous Decision making: In crisis situation we need to addressed first human safety then we can do further work later, but in terms of AI it prioritize the input inserted by developer which leads to violent the ethical rules.

4.Protection of Earth's resources in space: AI should be operated at its best way to reduce the consumption of unnecessary resources present in spaceship. If AI is manageable in space then it can produce maximum output by using less utility.

5.Transparency in AI: To build AI in such a way that it can make decisions of its own by acknowledging its pros and cons to the astronauts, so they can easily track the good and bad impacts of decision. It can also helps astronauts to build their trust on AI technology for the future partnership.
6.Informed Consent: The participants need to be informed that what kind of benefits, potential risks, responsibility they need to bear to work for space exploration research work. Without any awareness of disadvantages over advantages may lead to violation of ethical consideration.
7.Environmental impact of AI: In galaxy more than one planets are present without disturbing those planet environments we need to do our research in space. If any species come across in between research then we need to take proper measures to avoid them without harm.
Conclusion: Above ethical considerations need to be look out as early as possible as it is very common yet most negligible one. Because everyone want product over anything. To maintain transparency, efficient use of AI, exploration of space, etc. we need to consider ethical principles and implement it.

-Sanchyee Pendam

CYBERSECURITY : THE DIGITAL SHEILD IN A CONNECTED WORLD

In today's world, where almost everything we do involves the internet, cybersecurity acts as a digital shield. It protects our personal information and keeps critical systems, such as power grids and hospitals, secure. Without it, our interconnected world would face chaos and instability.

WHAT IS CYBERSECURITY?

At its core, cybersecurity is about safeguarding systems, networks, and data from cyber threats. It combines technology, strategic planning, and rules to protect privacy, build trust, and keep digital systems stable. Think of it as a mix of tech skills, understanding how people behave, and setting up guidelines to ensure safety online.

THE CHANGING NATURE OF CYBER THREATS:

As technology advances, so do the threats. Some of the most common challenges include malware, which can damage systems or steal data, and phishing scams that trick people into sharing sensitive information like passwords or bank details. Hackers also exploit software flaws through zero-day exploits before fixes are available. Long-term, targeted attacks, known as advanced persistent threats (APTs), are often aimed at stealing secrets or causing harm. Even smart devices, like fitness trackers or smart thermostats, can be hacked due to their vulnerabilities.

NEW WAYS TO TACKLE CYBER THREATS:

Cybersecurity is constantly evolving to address these challenges. Innovations such as artificial intelligence (AI) and machine learning help detect and predict threats faster. Zero trust architecture ensures that every user and device is verified, making it harder for attackers to gain access. Quantum cryptography is being developed to prepare for the future risks posed by quantum computing. There is also a growing focus on protecting critical systems, like energy grids, and stricter privacy laws are being enforced to ensure companies handle data responsibly.

HOW ETHICAL HACKING HELPS :

Ethical hacking, or “white-hat hacking”, plays a crucial role in cybersecurity. These professionals identify vulnerabilities in systems before malicious hackers can exploit them. Many companies encourage this by offering bug bounty programs, rewarding ethical hackers for discovering and reporting issues.

BUILDING A CAREER IN CYBERSECURITY:

The demand for cybersecurity professionals is skyrocketing. To start a career in this field, individuals should focus on learning programming, understanding networking, and earning certifications like Certified Ethical Hacker (CEH) or Certified Information Systems Security Professional (CISSP). Participating in hackathons and contributing to open-source projects are excellent ways to gain experience. A background in computer science or related fields can also provide a strong foundation.

CYBERSECURITY IS EVERYONE’S RESPONSIBILITY:

Cybersecurity isn’t just for experts—it’s something we all need to take seriously. Simple steps like using strong passwords, enabling two-factor authentication, and keeping devices updated can go a long way. Businesses must train their employees and invest in robust security tools. Governments, on the other hand, need to enact strong policies and collaborate internationally to combat cybercrime.

FINAL THOUGHTS :

Cybersecurity is the backbone of digital trust, keeping our online world safe and functional. By leveraging advanced technologies, encouraging collaboration, and nurturing skilled professionals, we can create a safer digital future. Remember, cybersecurity is a shared responsibility. Together, we can ensure the security and stability of our interconnected world.

-Chinmay Tekade

Emerging Technologies and The Future of IT Education

A Student's Perspective on Human and Computer Interaction

As an IT engineering student, I am fascinated by how emerging technologies are redefining the way humans interact with computers. This intersection of innovation and usability is crucial for shaping the future of our field. Recently, my peers and I conducted a survey to identify key technologies influencing human-computer interaction (HCI). By combining our findings with insights from professors and industry professionals, we explored the evolving landscape of IT education and the skills needed to thrive in it.

Three technologies stood out during our discussions. First, User Interface (UI) and User Experience (UX) Design emerged as a cornerstone for enhancing user engagement. One classmate aptly remarked, "Good design can make complex systems intuitive and enjoyable to use". Secondly, Natural Language Processing (NLP) was highlighted for its potential to bridge communication gaps between humans and machines. As another student noted, "With advancements in NLP, computers can understand and respond to human language more effectively". Lastly, Augmented Reality (AR) and Virtual Reality (VR) were recognized for their ability to create immersive, interactive experiences. A friend shared, "These technologies provide transformative ways to interact with digital content, especially in education and training".

To deepen our understanding, we sought insights from faculty and industry perspectives. Experts emphasized the importance of integrating design thinking and usability studies into the curriculum to foster user-centered design skills. They also highlighted the need for research-driven approaches that incorporate human behavior and interaction into IT education. Their feedback reinforced the idea that interdisciplinary knowledge is vital for developing intuitive and accessible technology.

Based on these findings, we propose several recommendations to improve IT education. First, institutions should introduce dedicated HCI modules focusing on designing and evaluating user interfaces. Secondly, hands-on workshops with UI/UX design and prototyping tools can offer practical learning opportunities. Thirdly, courses should address ethics and accessibility to encourage responsible technology design. Lastly, fostering interdisciplinary collaboration with psychology and cognitive science can provide a deeper understanding of human behavior in relation to technology.

In conclusion, aligning student perspectives with expert insights is essential for shaping a curriculum that prepares future IT professionals to innovate responsibly and effectively. By emphasizing human-computer interaction in education, we can better navigate the complexities of technology and create impactful solutions. The journey ahead is exciting, and with the right education, we can confidently shape the future of IT.

- Masud Laskar

Shielding Education: Tackling Cyber Threats in School and Colleges

Educational institutions have become attractive targets for cybercriminals due to the vast amounts of sensitive data they handle, ranging from student records to critical research data. Unfortunately, many schools and colleges operate with limited cybersecurity resources, leaving their systems vulnerable to cyberattacks. Hackers exploit these vulnerabilities to access valuable information, jeopardizing the institution's security and its user's privacy. Addressing this pressing issue requires a robust understanding of common cyber threats and the adoption of effective prevention strategies.

Institutions face various cyber threats, including malware and ransomware attacks, which can disrupt operations or compromise sensitive data. Phishing scams are another common threat, tricking users into revealing confidential information through deceptive emails or websites. Insider threats, whether intentional or accidental, can also lead to data misuse, while Distributed Denial-of-Service (DDoS) attacks overwhelm networks, rendering them inaccessible. Each of these threats poses significant risks to the integrity and functionality of educational systems, making proactive measures essential.

To combat these challenges, schools and colleges must prioritize cybersecurity education by training staff, faculty, and students on best practices and the importance of cyber hygiene. Strengthening authentication protocols, such as implementing multi-factor authentication, can effectively prevent unauthorized access. Additionally, regularly updating software and systems is crucial to address potential security vulnerabilities. Institutions should also safeguard data by employing robust encryption methods and secure storage solutions. By fostering a culture of cybersecurity awareness and implementing advanced security measures, educational institutions can significantly reduce their susceptibility to cyber threats.

In conclusion, the growing prevalence of cyberattacks on educational institutions underscores the need for proactive and comprehensive cybersecurity measures. By addressing common vulnerabilities and educating their communities, schools and colleges can protect sensitive information and maintain a secure, productive learning environment. As the digital landscape evolves, prioritizing cybersecurity will remain critical in ensuring the resilience and reliability of educational systems.

-Gaurav Tichkule

NON-TECHNICAL

"Creativity thrives where curiosity lives"

WOMEN'S EMPOWERMENT : A COMPREHENSIVE OVERVIEW

INTRODUCTION

Women's empowerment involves granting them equal rights across personal, social, economic, political, and legal domains, as well as enabling them to make decisions about their lives and careers. Today, it is a widely discussed topic, emphasizing the importance of liberating women to realize their potential.

TRANSFORMATIONAL WAVES IN WOMEN'S EMPOWERMENT :

Women are increasingly working alongside men in various fields, asserting independence and making lifestyle, career, education, and occupation choices. Financial independence, stemming from increased participation in the workforce, allows women to take charge of their lives and forge unique identities.

Balancing professional and personal roles, women effortlessly juggle responsibilities as wives, mothers, daughters, sisters, and professionals. They collaborate effectively with male colleagues, contributing to organizational goals. In rural areas, too, women are asserting their voices and claiming social and political rights, irrespective of education or socioeconomic status.

Despite progress, many women still face harassment and exploitation, including sexual, physical, and emotional violence. True empowerment requires societal attitude shifts, treating women with equality, justice, and respect. Rural regions, in particular, need to overcome feudal mindsets that restrict women's rights to education, marriage, and employment.

ADVANTAGES OF WOMEN'S EMPOWERMENT :

Empowered women lead fulfilling, self-reliant lives with dignity and confidence. They achieve a unique identity, rise to respectable societal positions, and contribute to higher GDP growth. Financial independence allows them to meet their needs and act as responsible citizens.

IMPORTANCE OF WOMEN'S EMPOWERMENT:

Without women's empowerment, societal issues like gender bias, inequality, and injustice persist. Empowerment ensures safety, legal protection, and freedom from exploitation. Social and economic empowerment enables women to establish their identities, essential for societal development and global economic stability.

STRATEGIES FOR WOMEN'S EMPOWERMENT:

Education: Education is foundational for women's empowerment, encouraging higher education for meaningful contributions to society.

Communication Skills: Effective communication allows women to express their ideas, lead teams, and manage families or businesses.

Financial Independence: Earning a living empowers women to influence financial decisions and expand businesses.

Internet Access: The internet provides knowledge, awareness, and social interaction, breaking taboos and prejudices.

EMPOWERMENT FOR SOCIAL AND ECONOMIC DEVELOPMENT

Women's empowerment involves increasing influence over financial, human, and intellectual resources. It is measured by participation in social, economic, and political spheres, alongside autonomy and societal impact.

CHALLENGES AND THE RURAL-URBAN DIVIDE :

Despite advancements, gender disparities persist, particularly in developing nations. Rural women face greater hardships than urban counterparts due to deep-rooted discrimination. True empowerment requires integrating women into mainstream development, ensuring equal opportunities across all sectors.

THE NEED FOR HOLISTIC EMPOWERMENT:

Beyond political participation, women must engage in decision-making and developmental programs. Efforts should focus on social changes that balance men's and women's societal roles. Equal opportunities will allow women to live active public lives and contribute to societal advancement.

CONCLUSION:

Modern societies have undergone significant development, but gender disparities remain. Women's empowerment is crucial for a balanced, inclusive society. By providing equal opportunities and fostering supportive environments, women can actively contribute to family, societal, and national progress. Achieving equality ensures women can coexist with men, sharing responsibility for holistic societal development.

-Prof. Rita Bhawalkar

WE OFTEN HEAR PEOPLE

We often hear people say, Opposites attract, which means that opposite aspects, natures, or people usually attract each other.

There are many examples that support this idea. But exceptions still exist. While people often say, Opposites attract, a recent study challenges this theory. According to research published by the American Psychological. Association, people often get attracted to those with whom they share common interests. These shared interests reflect a deeper, more fundamental connection, referred to as essence!

According to an article published on the American Psychological Association website, which cites a journal article ("Self-Essentialist Reasoning Underlies the Similarity-Attraction Effect", by Charles Chuet al)

Our attraction to people who share our attributes is due to the belief that those shared attributes are driven by something deep within us. “One's essence", said lead author Charles Chu, PhD, an assistant professor at the Boston University Questrom School of Business. To put it concretely, we like someone who agrees with us on a political issue, shares our music preferences, or simply laughs at the same thing as us not purely because of those similarities, but because those similarities suggest something more this person is, in essence, like me, and as such, they share my views of the world at large, Charles added.

Whatever may be the beliefs of writers on this, many people find this idea to be true in real life. For instance, when we make friends, we often share common interests, which becomes a reason for our closeness and familiarity to them. Some may bond over similar hobbies, others over shared interests, or perhaps simply because one is a good listener. Ultimately, being a person's special one is always accompanied by a feeling of fascination.

-Prof. Swapna Kamble

THE SERENITY OF STORMY DAYS

I always fantasize staring outside the window while my mind slips away into my alternate reality, and wondering of the actual meaning of life, the nature, the evolution, the stars, the psychology, the philosophy, the universe, peace, compassion, intellect. magic, far away galaxies and every thoughtful thing one could think of, whenever it gets cloudy, dark and stormy. To wonder about the reason of existence, about the vast expanse of the sky, the world we live in. Because it's the kind of weather that strangely, brings me peace. It makes me calm. It brings me to think of the mountains, oceans, rivers, music, the things that can be called peace in themselves. To feel the serenity that lies there.

There's a strange peace in stormy weather, a paradoxical calm that contrasts with the chaos outside. The sound of raindrops on the windowpane, the distant roll of thunder, and the faint smell of wet earth creates a tranquil symphony that soothes the restless mind. It's as if the world slows down, allowing me to connect with the parts of myself that often go unnoticed. In these moments, I find myself marvelling at the sheer vastness of the universe and the intricate details of the world we live in the mountains that stand tall as guardians of time, the rivers that carve paths through the land, and the oceans that hold secrets from eons ago.

This kind of weather, with its cloudy skies and stormy temperament, always brings me a sense of serenity. It's a gateway to thinking about what peace truly means. For some, peace is the quiet stillness of the mountains, for others, it's the gentle ebb and flow of the sea. For me, it's the harmony I feel in these moments of reflection, where my thoughts flow as freely as the rain outside. I think of the beauty of music, the timeless melodies that can evoke emotions no words ever could. I think of compassion, intellect, and the magic of human connection, all the elements that make life so rich and complex.

And yet whenever I think of peace, it feels different EVERYTIME.

Because, with a window to look from, a rainy day, a cup of tea and a good book, who could not be happy?

– Gauri Bharsakale

UNLOCK THE SECRETS OF FIRST-TIME TRADING

Trading involves buying and selling stocks, currencies, or other assets with the goal of making a profit. While it may seem overwhelming at first, trading requires education, patience, and practice rather than being a quick path to wealth. This guide introduces the basics, including market types, platform selection, technical and fundamental analysis, risk management, and strategy development. With dedication and ongoing learning, you can confidently make your first trade and embark on a rewarding trading journey. Now, let me guide you on how to make your first move in trading step by step.

1. Educate Yourself. Learn market basics (stocks. Forex, crypto, commodities) through books or tutorials. Understand trading terms like bid/ask, leverage, stop-loss, and explore styles like day trading or long-term investing to find what suits you.

2.Choose the Right Market. Start with stocks or ETFs for simplicity and stability. Other options include Forex (currency pairs), cryptocurrencies (Bitcoin, Ethereum), and commodities (gold, oil). Select based on your interests and risk tolerance.

3.Choose a Broker. Look for a secure, regulated broker with reasonable fees, user-friendly tools, and good analytical features. Be mindful of platform bonuses and minimums. Popular brokers include. Stock. E TRADE, TD Ameritrade, Fidelity, Forex. OANDA, Forex.com, IG & Crypto: Binance, Coinbase, Kraken

4.Start with a Demo Account. Use virtual funds to practice trading, test strategies, and learn platform tools like charts and indicators (eg., moving averages, RSI) without risking real money.

5.Create a Trading Plan: Define your goals, strategy, and risk limits. Include ,What to trade, Time frame, Risk management, Profit/stop-loss targets, Entry/exit rules.

6.Research Fundamental and Technical Analysis:

Technical: Use charts, patterns, and indicators to spot trends.
Fundamental: Analyze financials and economic data for value insights.

7.Begin Small and Grow. Open a real account with money you can afford to lose. Use minimal leverage, trade small positions, and log transactions to learn from successes and failures.

8.Put Risk Management First. Set stop-loss orders to limit losses and risk no more than 1-2% per trade. Stick to your plan and avoid emotional decisions.

-Reeya Meshram

MOMENTS IN MOTION

Have you ever found yourself caught up in the hustle and bustle of everyday life? You know. when you're surrounded by people rushing to get somewhere, and you can't help but get swept up in the chaos. That's exactly what I see when I look at a market at night. Everyone is in a hurry.

whether they're shopkeepers trying to make a sale, customers bargaining for the best deal, or passers-by rushing to their next destination. However, in the midst of all this chaos, I think we often forget to appreciate the little things. We are so focused on what's next, on reaching our goals and milestones, that we forget to enjoy the present moment. And that is where the true beauty lies. It is not about reaching some kind of destination, it is about embracing the stillness within the chaos and finding the poetry in everyday life. That is what I love about this photograph, Moments in Motion. It captures the fleeting moments that we often overlook and reminds us to pause and appreciate the beauty in the everyday.

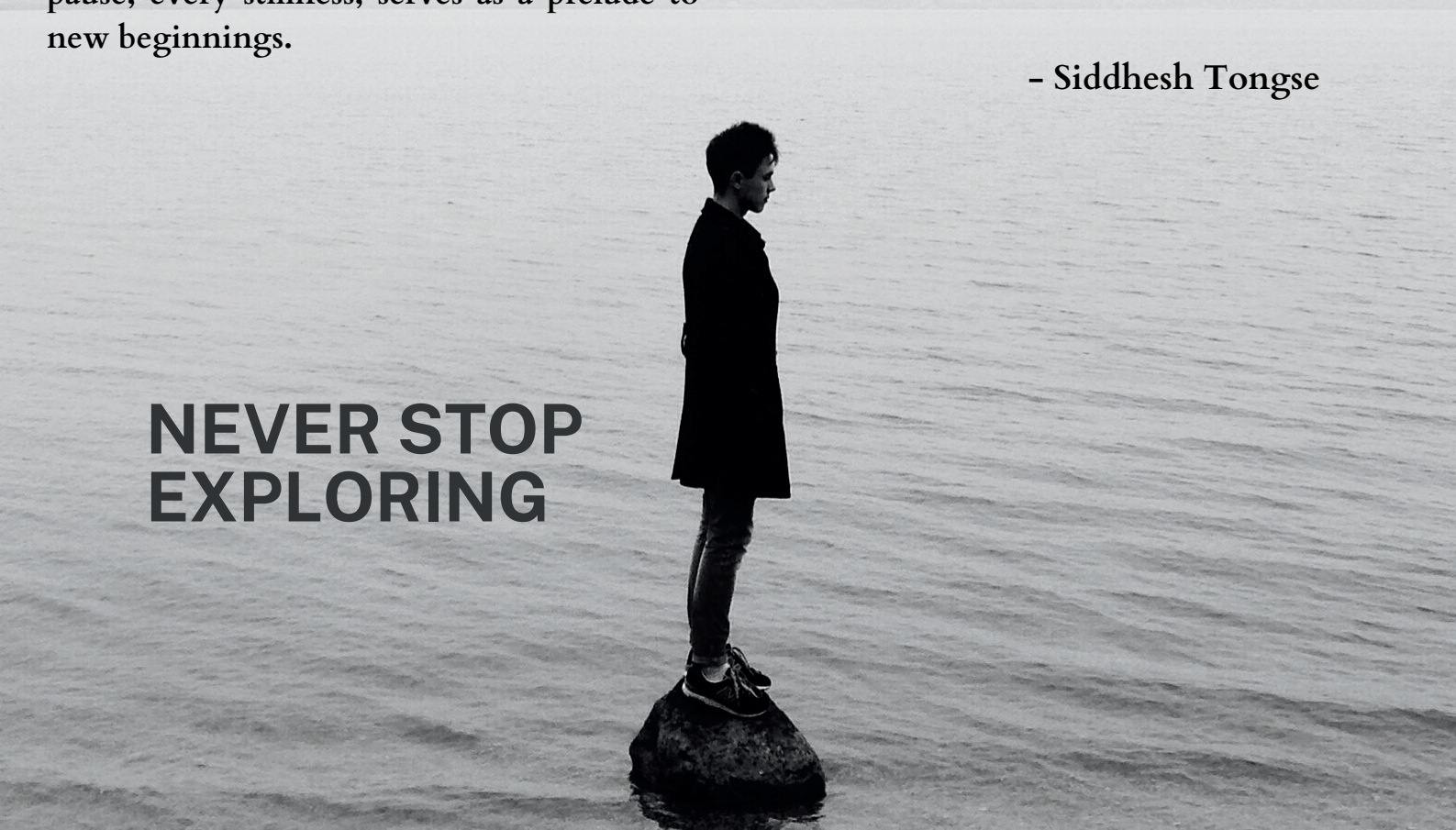
– Siddhesh Tongse

THE LAST ENCORE: FINDING MEANING IN THE QUIET MOMENTS

The Last Encore captures a large, quiet tent under a dark sky, faintly illuminated by the lingering lights of recently ended performance. The deserted seats, once filled with the energy of the audience, now stand empty and still. This empty moment reflects on our own journey as students. We've all been there pushing through the chaos of exams, the intensity of group projects, and the endless cups of coffee that fuel our late-night study sessions. But it's in the moments of stillness that follow, when the noise dies down and the dust settles, that we're given the chance to reflect, recharge, and rediscover ourselves. It's in these quiet phases that we subtly grow, recalibrate, and prepare for what's next. Just as the tent awaits its next audience, our own quiet moments are filled with potential. Every pause, every stillness, serves as a prelude to new beginnings.

It's a reminder that every last encore signals not only an end but also a new stage in our journey, ready to unfold. So, let's not rush to fill the silence. Let's not be afraid of the stillness. Instead, let's learn to embrace it, to find meaning in the quiet moments, and to discover the potential that lies within us. By doing so, we'll develop not only the resilience to navigate life's ups and downs but also the readiness to seize the opportunities that come our way. And when the curtains finally close on our time at university, we'll be ready to take on whatever comes next, armed with the knowledge, skills, and quiet confidence that comes from embracing the stillness.

– Siddhesh Tongse



Poetry Section

"Poetry is the music of words,
echoing the heart's deepest truths"

बाप

सही कर्म वे नहीं हैं जिनके परिणाम हमेशा सही हों,
सही कर्म वो हैं,जिनका उद्देश्य कभी ग़लत नही होता।

बाप द्वारा किये कर्मों का भले ही परिणाम सही ना हो
पर बाप के किये प्रयासों का उद्देश्य गलत नहीं होता !!

जो बिना आँसू बिना आवाज के रोता है,वो बाप होता है,
जो बच्चों की किस्मत के छेद अपनी बनियान में पहन लेता है,
वो बाप होता है।

माँ रखती है,हमें 9 महीने अपनी कौख में,
जो 9 महीने अपने दिमाग में ढोता है,वो बाप होता है।

घर में जब सबके लिये नए जूते आते हैं,
तब बाप के जूतों के तलवे घिस जाते हैं।

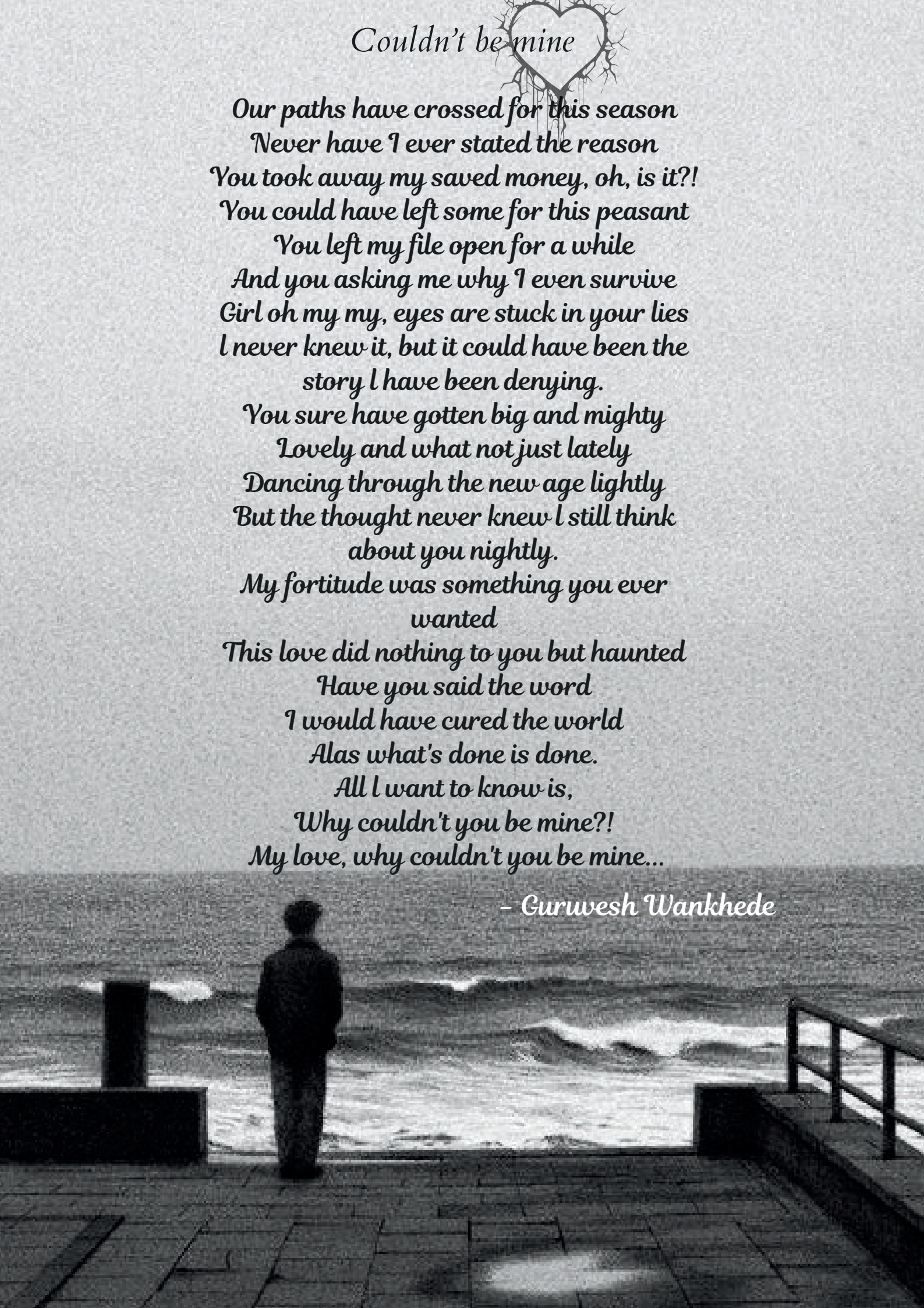
जो अपनी आँखों में दूसरों के सपने सँजोता है,
वो बाप होता है।
बाप रखवाला होता है,बाप निवाला होता है,
बाप अपनी औलाद से हारकर मुस्कराने वाला होता है।
बाप करता है,पर कहता नहीं।
जब यह बात समझ में आये,तब वो बाप रहता नहीं।

-Prof. Rita Bhawalkar

Couldn't be mine

Our paths have crossed for this season
Never have I ever stated the reason
You took away my saved money, oh, is it?!
You could have left some for this peasant
You left my file open for a while
And you asking me why I even survive
Girl oh my my, eyes are stuck in your lies
I never knew it, but it could have been the
story I have been denying.
You sure have gotten big and mighty
Lovely and what not just lately
Dancing through the new age lightly
But the thought never knew I still think
about you nightly.
My fortitude was something you ever
wanted
This love did nothing to you but haunted
Have you said the word
I would have cured the world
Alas what's done is done.
All I want to know is,
Why couldn't you be mine?!
My love, why couldn't you be mine...

– Gurwesh Wankhede



FOREVER US

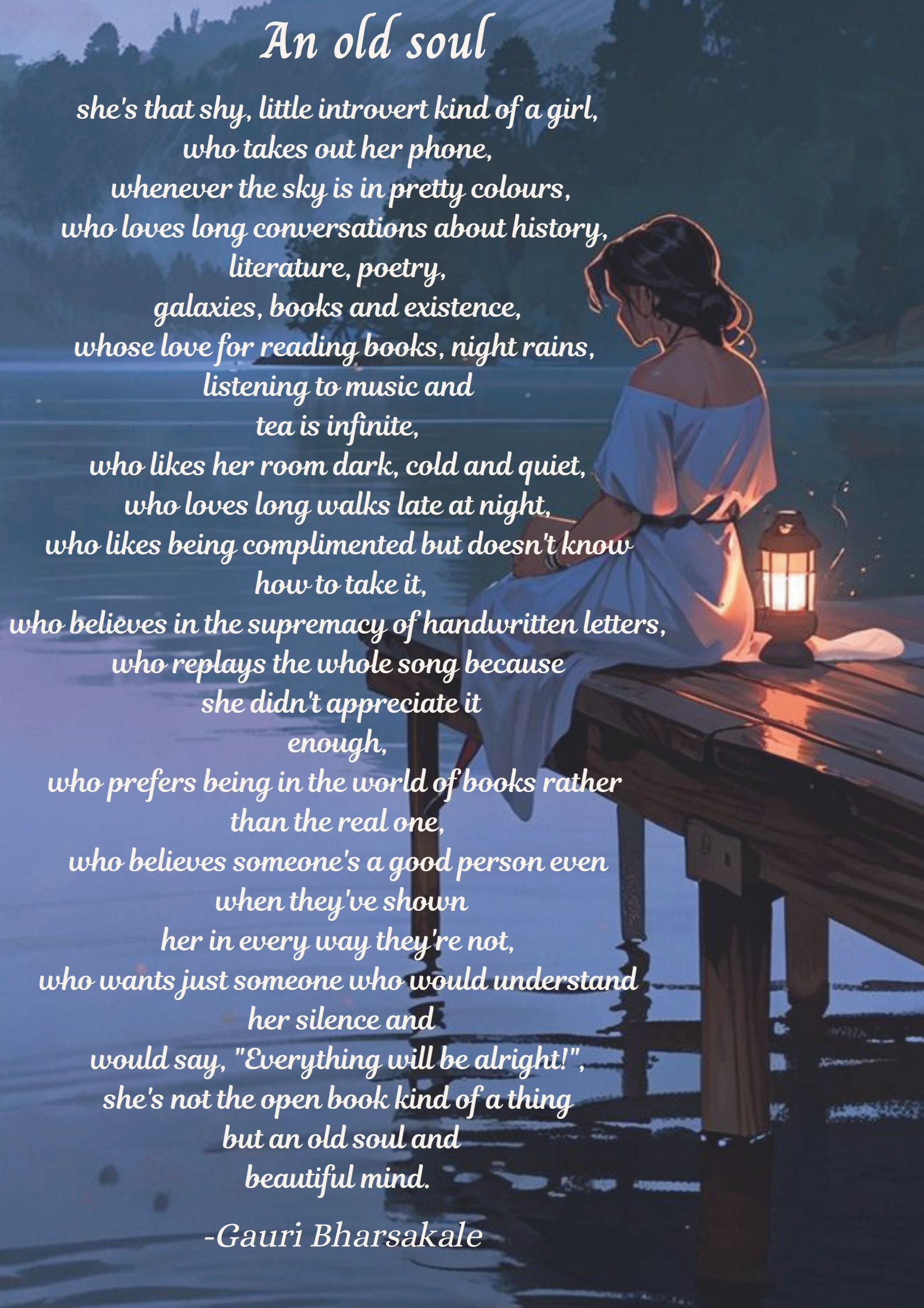
In the quiet moments, when the world fades away,
I see the love in your eyes, brighter than the day.
You're my first friend, my heart's delight,
A bond so deep, it feels just right.
Through laughter and tears, we share our days,
In every little thing, love finds its ways.
You lift me up when I feel small,
In this great journey, we have it all.
With every hug, a promise we make,
To stand together, no matter the stakes.
In the warmth of your smile, I find my home,
In this endless love, we're never alone.
Through every challenge,
we face the storm, With you by my side, I feel so warm.
A brother and sister, forever we'll be,
In the heart of my heart, you're a part of me.
So here's to us, in all that we do,
A love that's endless, forever true.
No matter the distance,
no matter the time, Our hearts are connected,
your love is mine.

-Masudur Rahaman

ZINDAGI

Main mann hi mann sochti hoon ki zindagi kya hain...?
Jie cheez ko samajh baithi hoon zindagi, kya sachhi wah utni nakaam hain....?
Rona, Kosana, Jhagdna, Daudna, kya isi mein iska sthaan hain...?
Kya zindagi ka, bas itnaa hi daam hain!
Suna tha,
Ek ehsaas hai, jise aabhaas rehne diya....
Ek muskaan hai, jise dur dhakela gaya....
Thodi nadaan hai, jise sakht bana diya,
Aur thodi saral hai, jise kathin chuna gaya....!
Kya zindagi sachhi aisi hain...?
ki humne sochne ka tareeka hi badal diya...?
Kya ye itni adil hain...?
Ki humne ise majbooran aankhon se dekhna pasand kiya...?
Nahi….
ye itni buri bhi nahi, jitna hum sochte hain...!
Bas suspense hai thodi, aao isse khojate hai…!
Bohot sundar hai, bas thoda andar jhaakna padega....
Sorted hai saari cheejein, sirf uss nazariye se dekhna padega....
Isiliye, abse kabhi na kehna ki zindagi unfair hain....
Kyuki iski real definition toh VISHVAAS aur MEHNAT ki pair hai...!
Toh, zindagi phool hain, jo hamesha khushboo se mehekaye....
Zindagi tohfa hain, jo sirf gine-chune logon ke nasib aaye....
Zindagi journey hain, jo ek chance ko aazmaaye....
Aur haan, zindagi ek khubsurat kavita hain, jo khushi ke panne likhwaaye....

-Vedika Palarpwar



An old soul

she's that shy, little introvert kind of a girl,
who takes out her phone,
whenever the sky is in pretty colours,
who loves long conversations about history,
literature, poetry,
galaxies, books and existence,
whose love for reading books, night rains,
listening to music and
tea is infinite,
who likes her room dark, cold and quiet,
who loves long walks late at night,
who likes being complimented but doesn't know
how to take it,
who believes in the supremacy of handwritten letters,
who replays the whole song because
she didn't appreciate it
enough,
who prefers being in the world of books rather
than the real one,
who believes someone's a good person even
when they've shown
her in every way they're not,
who wants just someone who would understand
her silence and
would say, "Everything will be alright!",
she's not the open book kind of a thing
but an old soul and
beautiful mind.

-Gauri Bharsakale

No Regrets

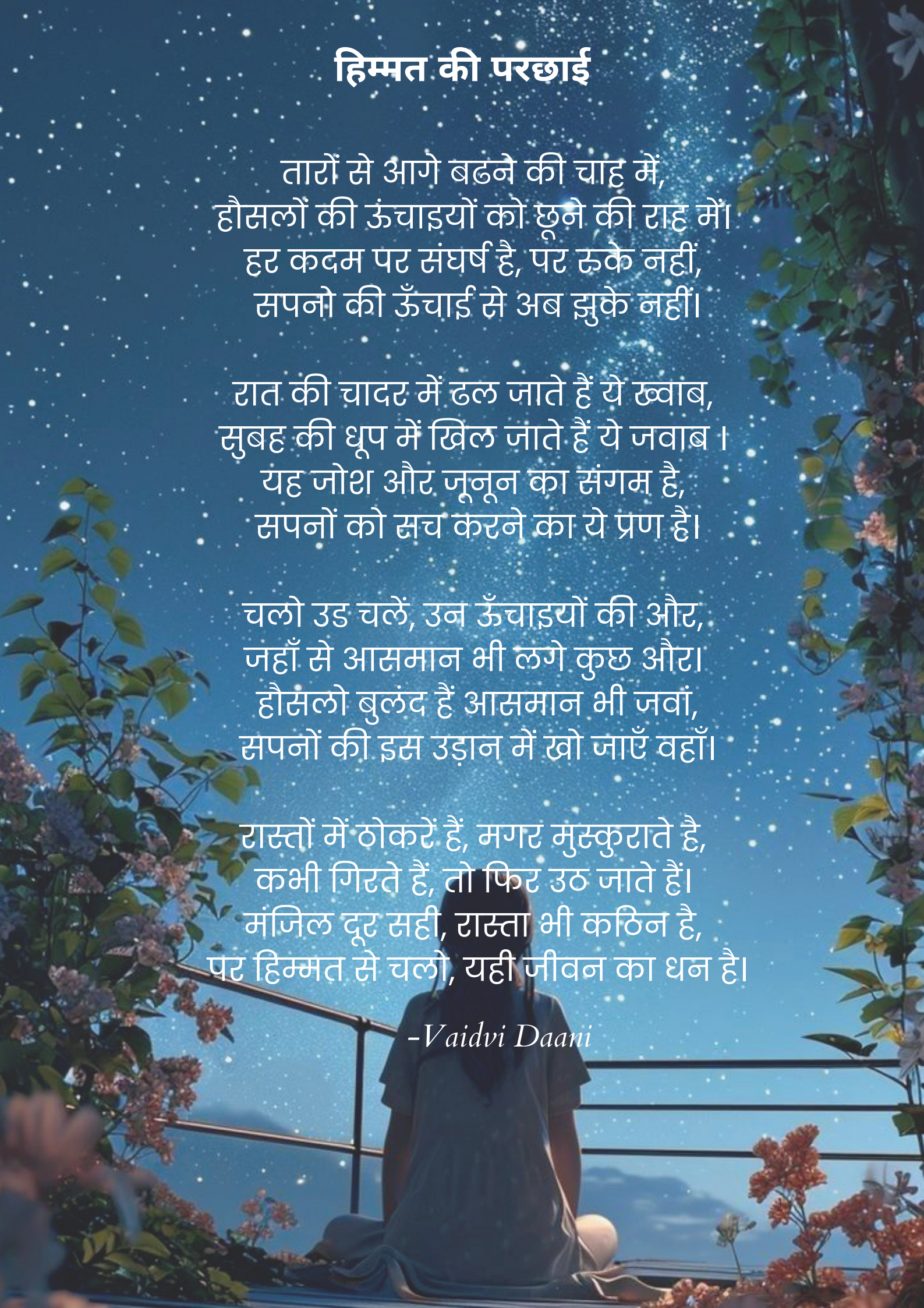
Drowning in the night, sky in the sight,
someone pull me out, it's cold inside.
Body feels heavy,
cold and dead, wash it out before sunset.
My shoulders are heavy,
in pressure of debt,
long history,
With no regrets. Hairs are strangled,
body is pale, looking for the cure, none to help.
Face is familiar,
are you the same,
forgot by the world, remember by saint.
You are the one,
whom I was searching, in this selfish world, you feel something.

-Sanchit Yelne

The bond

I came to college, a stranger to all,
Found four friends, my strongest wall.
One who's hungry and sleepy each day,
Beautiful and wise in her own way.
The second, so cute, with laughter so bright,
Always there for me, a comforting light.
The third, a topper, sharp and keen,
Ready to help, with a fun-loving sheen.
The fourth, a little clumsy, yet sweet,
Her silly mistakes make our lives complete.
These four are like a song so true,
In every joy and struggle, they pull me through.
These friendships bloom like flowers in spring,
With laughter and love, a melody we sing.
Each one a part of my heart's own song,
A bond unbreakable, lasting and strong.
Through late-night talks and secrets shared,
Moments of joy and times we've cared.
They heal the wounds they never made,
A gentle light when colors fade.
With every laugh, every tear we cry,
We grow together, reaching high.
In these souls, I've found a home,
No matter where in life I roam.
So here's to these sisters, my chosen crew,
With hearts so kind, and spirits true.
I look forward to each day we face,
In this journey of life, at our own sweet pace.
For female friendships are a gift so rare,
A precious bond, beyond compare.
And as seasons pass, and years unfold,
This love, this friendship, will never grow old.

-Reva Bhalodia



हिम्मत की परछाई

तारों से आगे बढने की चाह में,
हौसलों की ऊंचाइयों को छूने की राह में।
हर कदम पर संघर्ष है, पर रुके नहीं,
सपनो की ऊँचाई से अब झुके नहीं।

रात की चादर में ढल जाते हैं ये ख्वाब,
सुबह की धूप में खिल जाते हैं ये जवाब ।
यह जोश और जूनून का संगम है,
सपनों को सच करने का ये प्रण है।

चलो उड चलें, उन ऊँचाइयों की और,
जहाँ से आसमान भी लगे कुछ और।
हौसलो बुलंद हैं आसमान भी जवां,
सपनों की इस उड़ान में खो जाएँ वहाँ।

रास्तों में ठोकरें हैं, मगर मुस्कुराते है,
कभी गिरते हैं, तो फिर उठ जाते हैं।
मंजिल दूर सही, रास्ता भी कठिन है,
पर हिम्मत से चलो, यही जीवन का धन है।

-Vaidvi Daani

।। जगायला कर सुरुवात ।।

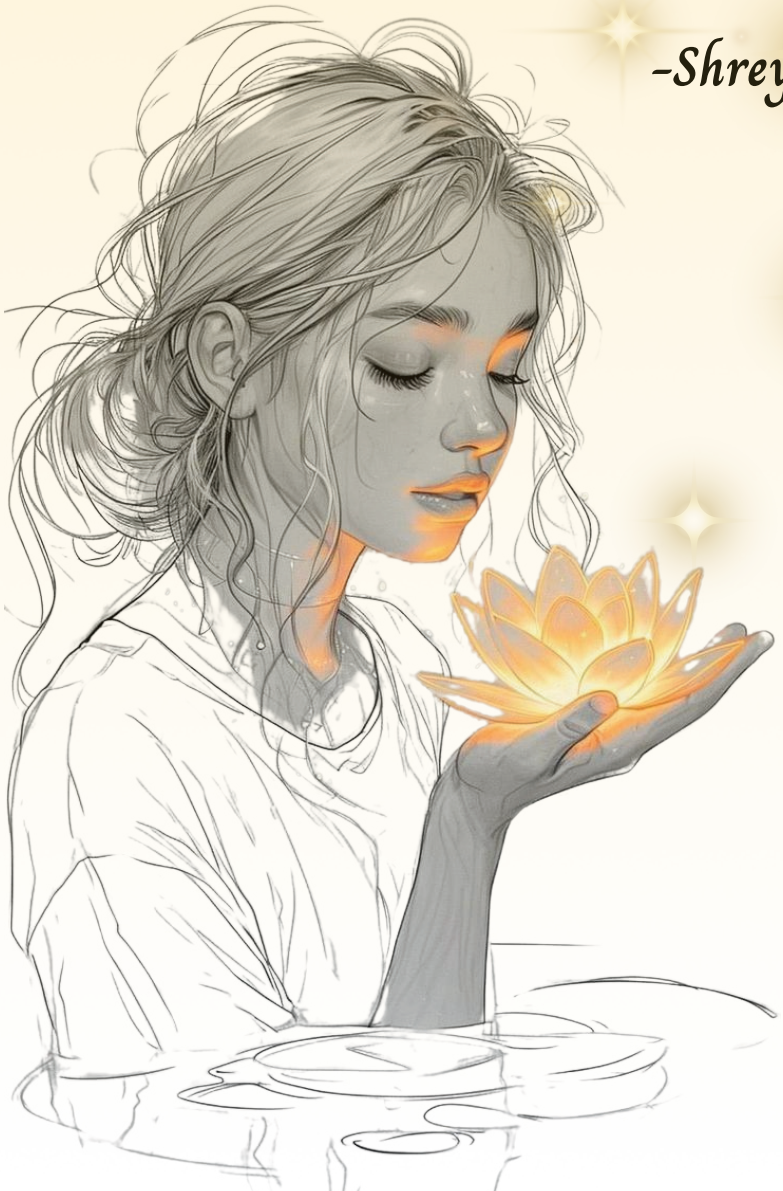
बघता बघता जग गुंथुन गेलेय मी काळजी घेता सर्वांची स्वतःसाठी कळलेच नाही कसे हरवले मी. ।।

दिवसभर करी धावपळ अंगाचा होतोए तळपापड सर्वांना देतोए वेळ अनुभवातून शीकले मी. जग करतोय आपल्यासोबत खेळ ।।

नको बघु आता कुणाची वाट कर स्वतःसाठी जगायला सुरुवात बोलणारे आपल्याला लोक दहा आपण बैरेपणा घेऊन आनंदाने जगावा॥

आजची रात्र आपली उद्याची सकाळ कोणी नाही बघितली करता-करता या जगासाठी धावपळ मनसोक्त जगायला नको तु विसर ।।

-Shreya Gawhane



NAZARA

Yu nazaron ke deewane h yaha,
mai to kinara dhoondna chahti hu,
us kinare se samundar dekhna chahti hu,
samundar aisa jo shaanti se ghira ho,
jo shant leheron me beh raha ho,
behti lehere kuch yun chhu jaye,
jaise m aur meri baatein kahi kho jaye.

-Aniksha

जीवनकळा

कळी म्हणुन उमलायचंय,
फुल म्हणुन फुलायचंय.
बागेत राहत असतांना,
सुगंध देत जगायचंय.
वाऱ्यासंगे डोलायचंय,
सूर्याकडे बघायचंय,
पावसात मनसोक्त भिजायचंय.
चंद्रप्रकाशात चमकायचंय,
चांदण्यांशी गप्पा मारायचंय,
रात्रीच्या कुशीत निजायचंय.
मातीशी मिठी मारायचीय,
शेवट पर्यंत निभावायचीय,
नव्याने परत उठायचंय,
स्वाभिमानाने जगायचंय.

-Reeya Meshram

Art Section

Art speaks where words fail, capturing the soul's deepest emotions.

Kashmira Chaoji

Kashmira Chaoji

Reeya Meshram

Dhanashre Kshirsagar

Himani Jain

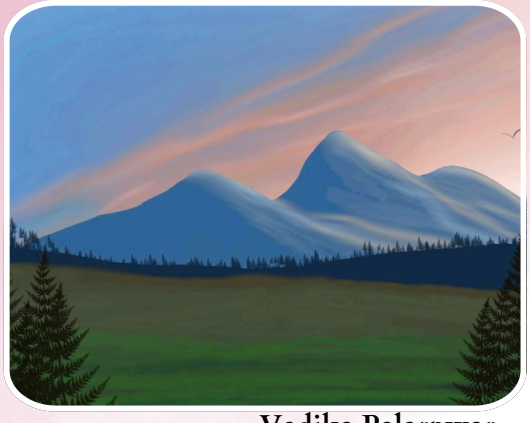
Reeya Meshram

Adil Dhote

Mohini Navghare

Swastika Tinkhede

Kashmira Chaoji

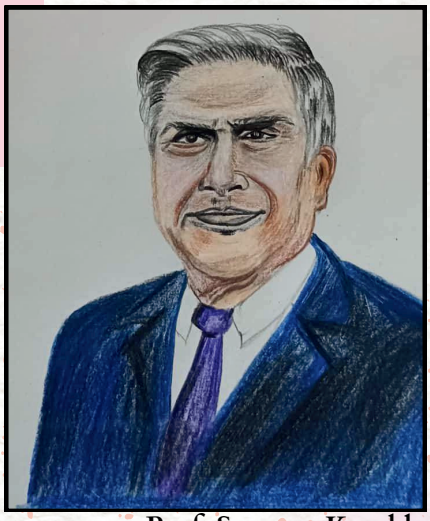


Vedika Palarpwar

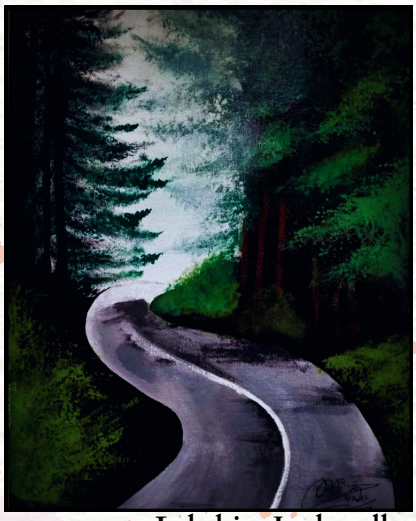
Himani Jain

Aditi Likhar

Vaishnavi Tangade



Prof. Swapna Kamble



Lakshita Janbandhu

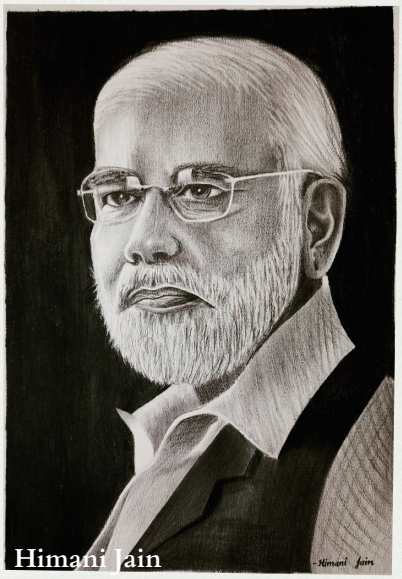
Adil Dhote

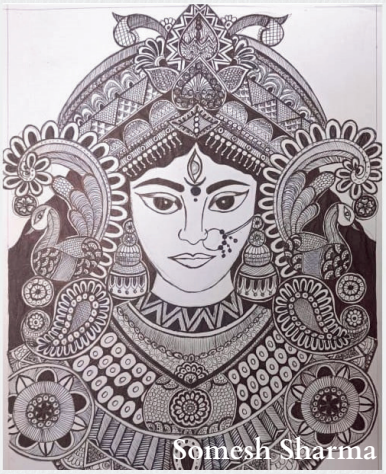
Dhanashree Kshirsagar

Adil Dhote

Aditi Likhar

Aditi Likhar

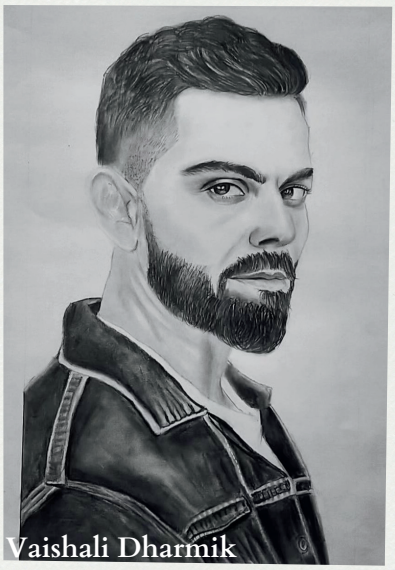

Himani Jain


Somesh Sharma

Somesh Sharma

Vaishnavi Tangade

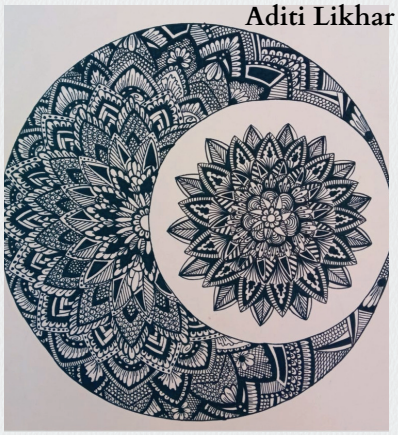
Ragini Junankar


Vaishali Dharmik

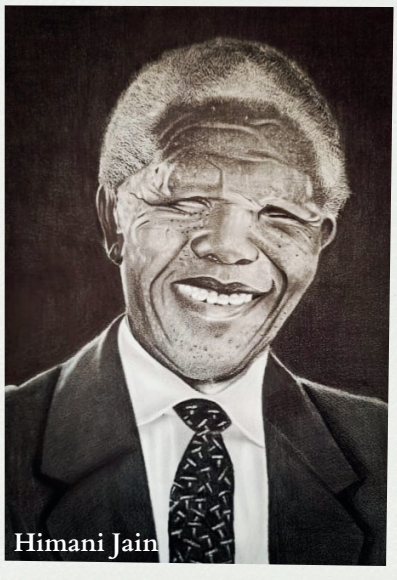
Somesh Sharma

Sahil Dhote

Aditi Likhar


Aditi Likhar

Reeya Meshram


Himani Jain

PHOTOGRAPHY

MAADHYAM 2025

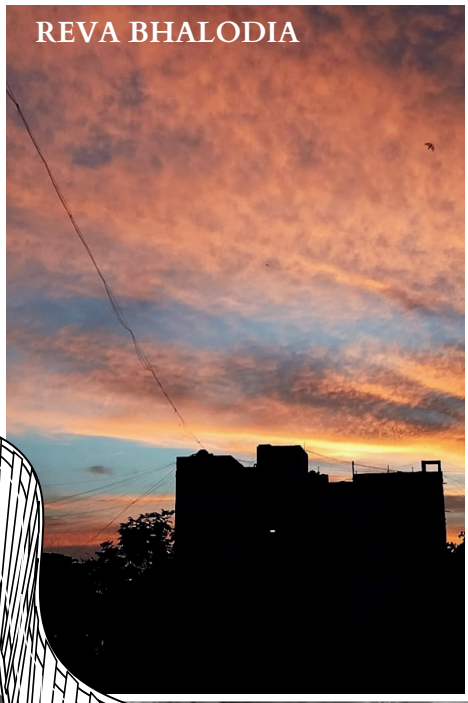
HIMANSHU PUNWATKAR

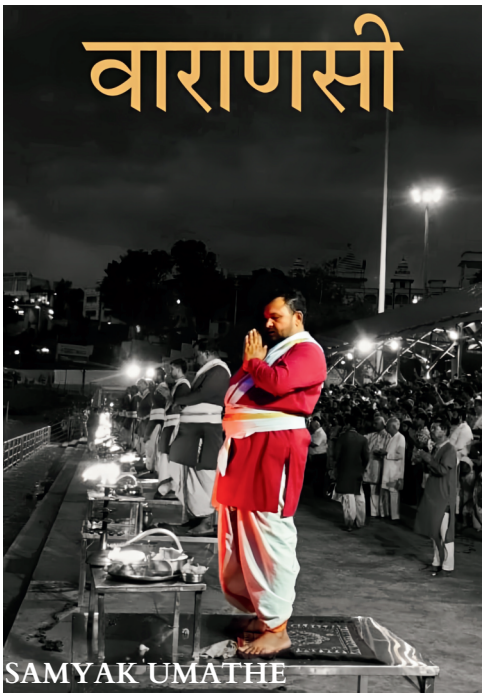
KEDAR POUL

ADITYA GUPTA

ADITYA GUPTA

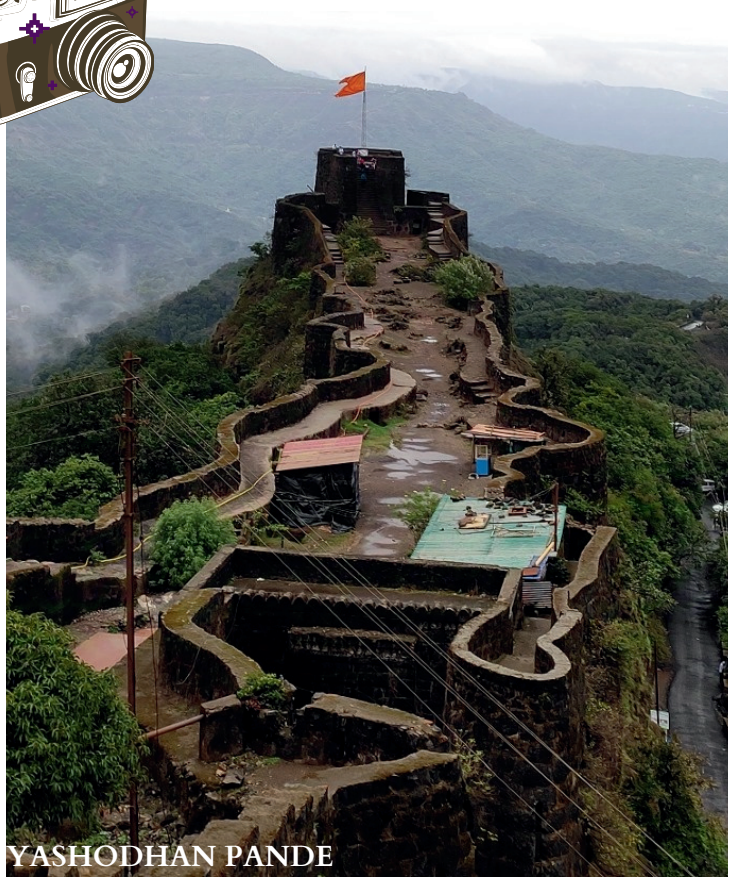
KEDAR POUL


REVA BHALODIA



SAMYAK UMATHE

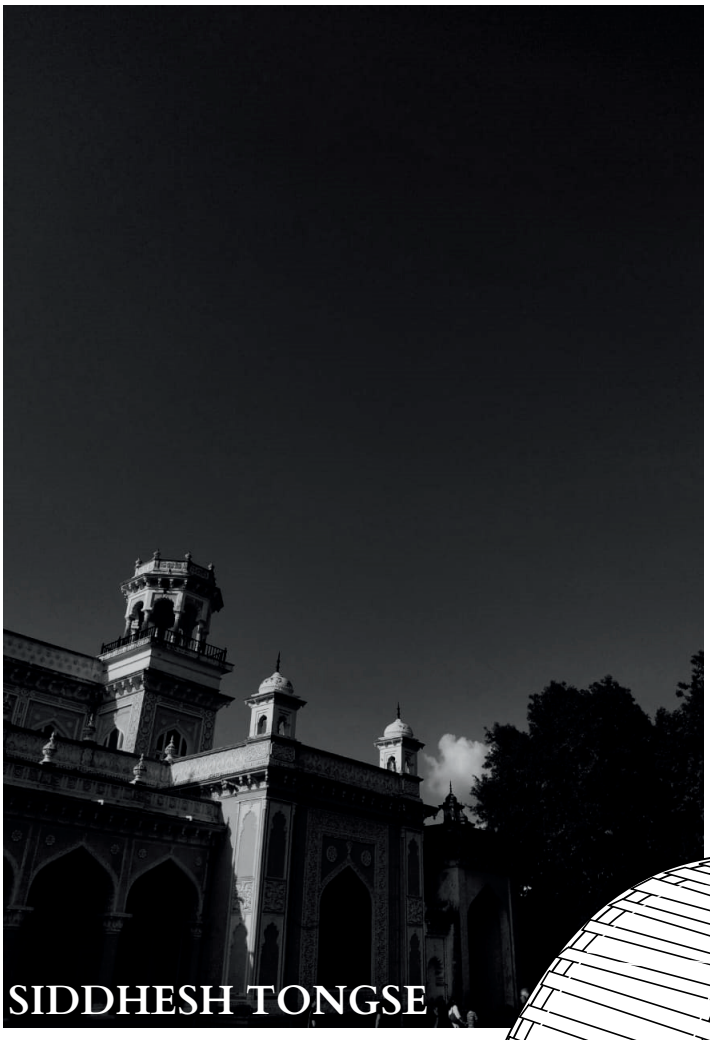
SIYA KHURANA



YASHODHAN PANDE

KEDAR POUL

YASHODHAN PANDE

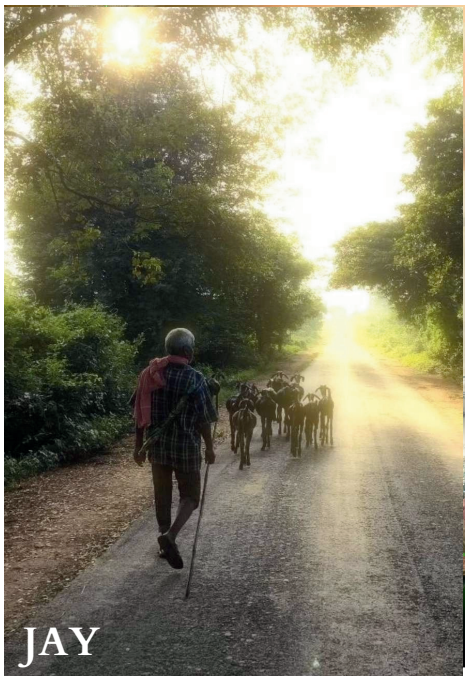


SIDDHESH TONGSE

YASHODHAN PANDE

@samclicks
SAMYAK UMATHE

REVA BHALODIA

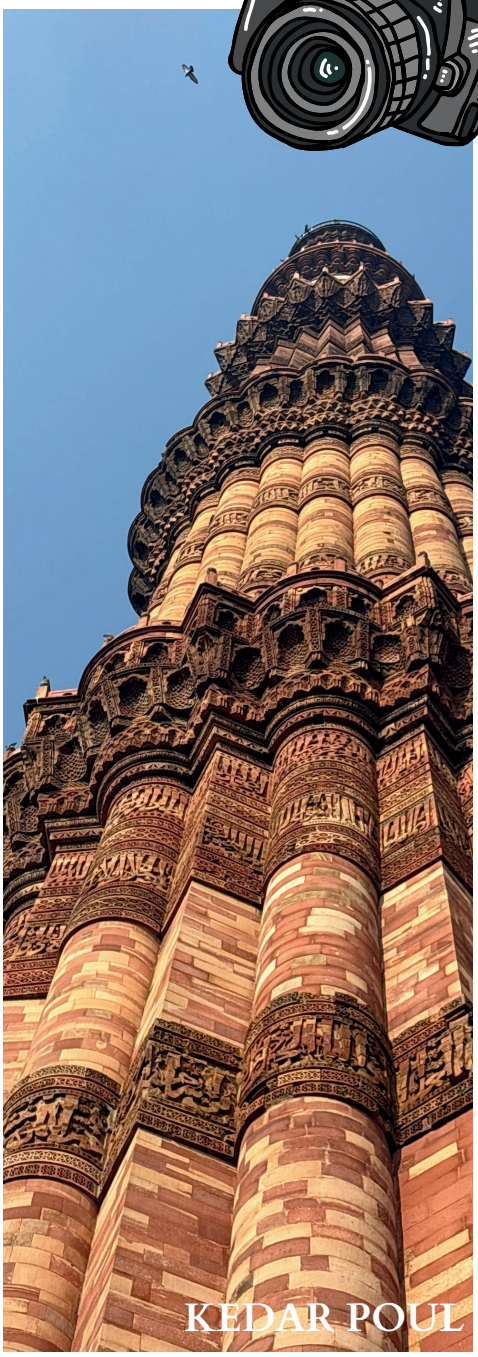

JAY

NANDINI JHOSI

KEDAR POUL

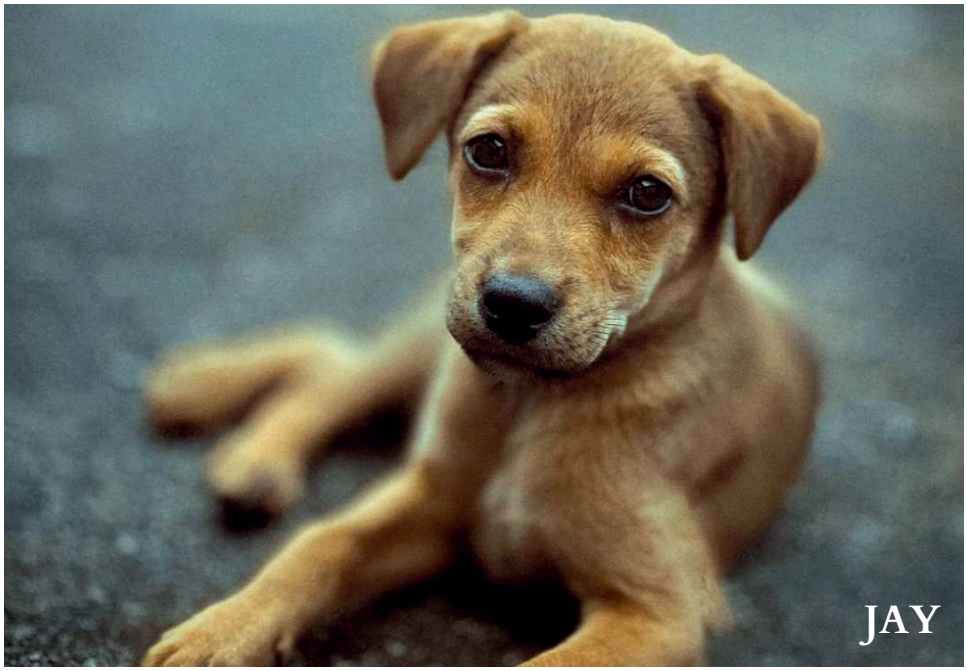
TANIYA BORKAR

JAY


KEDAR POUL

SIDDHESH TONGSE

ADITYA GUPTA


JAY

PLACEMENTS

S.N.	STUDENT NAME	COMPANY 1	
		COMPANY NAME	PACKAGE
1.	Abhishek Bhoyar	Global Logic	5.65 LPA
2.	Akshay Dange	Fendahl international	5.25 LPA + retention bonus
3.	Kajal Jora	Bristlecone	4.25 LPA
4.	Atharva Thenge	Globallogic	5.6 LPA
5.	Satyam Mahajan	LTIMindtree	4.05 LPA
6.	Niraj Chaudhary	Infosys	3.6 LPA
7.	Kartik Chavan	Infosys	9.5 LPA
8.	Om Sadawarti	LTIMindtree	4.05 LPA
9.	Divyanshu Ninawe	LTIMindtree	4.05 LPA
10.	Yash Borkar	Infosys	3.6 LPA
11.	Vrushabh Dahikar	LTIMindtree	4.05 LPA
12.	Sanika Shete	Infosys	3.6 LPA
13.	Devanshu Bhoyar	Infosys	3.6 LPA
14.	Aniket Rakhade	Bristlecone	4.25 LPA
15.	Pallavi Patil	Infosys	3.6 LPA
16.	Atharv Sonare	LTIMindtree	4.05 LPA
17.	Khushi Pandey	Bristlecone	4.25 LPA
18.	Dhruv Raut	Infosys	3.6 LPA
19.	Piyush Gajbhiye	LTIMindtree	4.05 LPA
20.	Hitesh Bawankar	Infosys	3.6 LPA

PLACEMENTS

21.	Abhishek Ghule	Infosys	3.6 LPA
22.	Vrundali Rahangdale	Infosys	3.6 LPA
23.	Saloni Bhandirge	Infosys	3.6 LPA
24.	Khushi Bothara	Infosys	3.6 LPA
25.	Chaitali Nagbhidkar	Infosys	3.6 LPA
26.	Salfiya Anzar	Infosys	3.6 LPA
27.	Abhay Verma	Infosys	9.5 LPA
28.	Bhagyesh nand	LTIMindtree	4.05 LPA
29.	Amit Shou	Global Logic	5.66 LPA
30.	Abhijeet Konar	Bristlecone	4.25 LPA
31.	Aditya Wanjari	Infosys	3.6 LPA
32.	Aniket Kapale	Bristlecone	4.25 LPA
33.	Rushikesh Karadbhajane	Infosys	3.6 LPA
34.	Achal Gawande	LTIMindtree	4.05 LPA
35.	Ayush Gundawar	LTIMindtree	4.05 LPA
36.	Hitanshu Dadhich	Infosys	3.6 LPA
37.	Gaurav Kalbhut	Infosys	3.6 LPA
38.	Pawan Balpande	LTIMindtree	4.05 LPA
39.	Yashshree Kukade	Infosys	3.6 LPA
40.	Rahul Koduri	LTIMindtree	4.05 LPA

PLACEMENTS

41.	Vasudevan Gounder	LTIMindtree	4.05 LPA
42.	Harshit Khadia	Infosys	3.6 LPA
43.	Ayush Sainwar	Infosys	3.6 LPA
44.	Khushi Kela	Infosys	3.6 LPA
45.	Ashlesha Kadu	Infosys	3.6 LPA
46.	Pralendra Behera	Infosys	3.6 LPA
47.	Trisha Kasumbiwal	Infosys	3.6 LPA
48.	Yashkumar Joshi	Infosys	3.6 LPA
49.	Runishka Patil	Infosys	3.6 LPA
50.	Gunjan Palsapure	Infosys	3.6 LPA
51.	Samarth Sharma	Infosys	3.6 LPA
52.	Aditya Kawadkar	Amla Commerce	3.28 LPA
53.	Mohd Afzal Qureshi	LTIMindtree	4.05 LPA
54.	Shweta Yadav	Infosys	3.6 LPA
55.	Harsh Joshi	Amla Commerce	3.28 LPA
56.	Rajat R. Dande	LTIMindtree	4.05 LPA
57.	Devanshu Soni	Infosys	3.6 LPA
58.	Avishka Junghare	Infosys	3.6 LPA
59.	Himanshu Mondhe	Infosys	3.6 LPA
60.	Anvita Awte	Infosys	3.6 LPA
61.	Talika Wadhai	Amla commerce	3.28 LPA
62.	Om Malode	Amla commerce	3.28 LPA

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DEPARTMENT OF
INFORMATION TECHNOLOGY
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Traditional Day 2K24

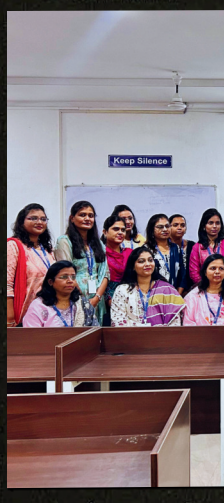
ITECHROOTS 14.0

TECH

DEPARTMENTAL EVENTS 2024

itechroots

2024



itechroots 2024

KRAFTON INDIA ESPORTS

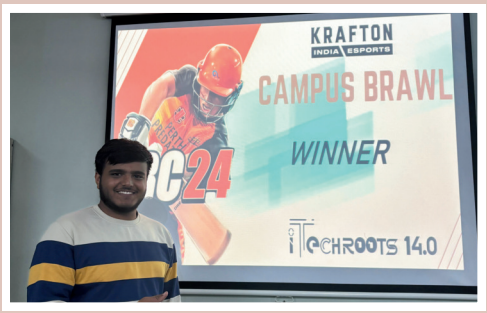
The success of a gaming event that was arranged in partnership with Krafton Gaming and included tournaments in well-known games like BGMI (Battlegrounds Mobile India), Road to Valor(Empires), Real Cricket 24, and Bullet Echo is highlighted in the event. The event, which was hosted by ITechRoots 14.0, gave gamers access to a top-notch platform and united competitors and spectators for a memorable experience. A key factor in guaranteeing flawless execution and raising the event's overall calibre was the strategic alliance with Krafton Gaming. This amazing event was organized by Tanay Ajankar, Sahil Ninawe, Chinmay Nandgaonkar, and Kedar Poul.

The three-day event has a jam-packed itinerary of activities. Twenty teams competed in ten matches on Day 1 of the BGMI Tournament, with ten teams moving on to the qualifications. On Day 2, there was even more activity, including the BGMI Qualifier-II, in which 16 teams competed in 8 matches, with 8 teams moving on to the next round. In addition, Kartik won the Road to Valor tournament, which featured eight players in seven exciting bouts. Vedant won first place in the Real Cricket 24 competition, which had a similar structure. On Day 3, five teams of three players each competed for cash prizes in the Bullet Echo Tournament. 16 teams fought through qualifications, quarterfinals, semifinals, and a final match at the BGMI Finals, which marked the end of the day. The final winner for BGMI is Team Falcon, and the total prize pool of 50,000 is distributed among winners of all games, including a portion allocated for royalties . With over 4,000 attendees and 10,000+ impressions on social media from postings and stories, the event was a huge success.

Throughout, Krafton's branding was widely visible, appearing on departmental magazines, banners, screens, and winners' certificates. Instagram and the official event website were used for online promotion. To sum up, the gaming event set a standard for future gatherings by demonstrating the enthusiasm and unity of the gaming community. All participants had an unforgettable experience thanks in large part to Krafton Gaming's sponsorship and assistance. In order to promote competitive gaming and community involvement, the organizer’s thanked Krafton and were excited about future partnerships.

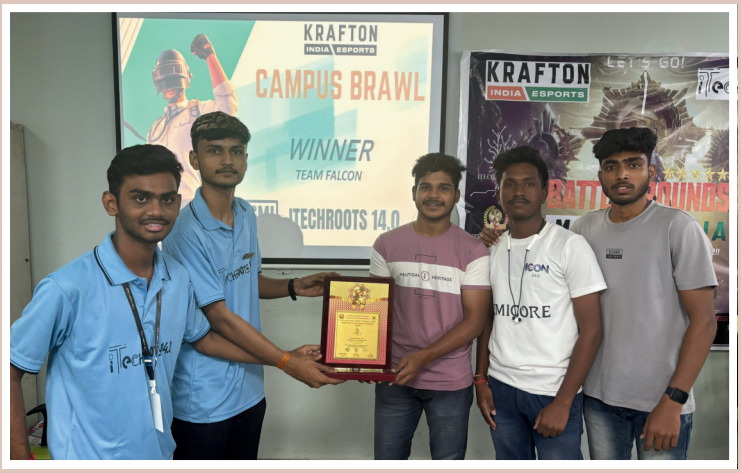
KRAFTON
INDIA ESPORTS
CAMPUS BRAWL
RUNNER UP
KRAFTON
INDIA ESPORTS
BATTLEG
MOBILE
FREE ENTRY
23rd, 24th and 25th
Aug 2024
9146375066

KRAFTON
INDIA ESPORTS
TECHROOTS 14.0
BULLET ECHO
FREE ENTRY FOR ALL
REAL CRICKET 24
ROAD TO VALOR EMPIRES
KRAFTON
INDIA ESPORTS
23rd, 24th and 25th
Aug 2024
LUCKY PRIZES UPTO 15K
IT DEPT, YCCE
ORGANIZERS
SAHIL NINAWE
CHINMAY NANDGAONKAR
TANAY AJANKAR
KEDAR POUL
9146375066
PRESIDENT SPIRIT & AURA
Harshdeep Ambule
8080122182
PRESIDENT CSI
Varsha Bramhankar
8080946005
CERTIFICATES FOR ALL
PRESIDENT SPIRIT & AURA
Samarth Sharma
8669105871


KRAFTON
INDIA ESPORTS
CAMPUS BRAWL
WINNER
TECHROOTS 14.0

KRAFTON
INDIA ESPORTS

KRAFTON
TECHROOTS 14.0
KRAFTON
REAL CRICKET 24


KRAFTON
INDIA ESPORTS
CAMPUS BRAWL
WINNER
TEAM FALCON
TECHROOTS 14.0
KRAFTON
INDIA ESPORTS

Thank You
KRAFTON
INDIA ESPORTS
KRAFTON
INDIA ESPORTS

INDUSTRIAL VISIT

Industrial visits turn knowledge into insight through real-world exploration

क्षेत्रीय सुदूर संवेदन केंद्र - मध्य
REGIONAL REMOTE SENSING CENTRE - CENTRAL
DEPARTMENT OF INFORMATION TECHNOLOGY
Industrial/Research Lab Visit
GPS Map Camera
Nagpur,MH,India
Amravati Road, Vayusena Nagar, Nagpur, 440007, MH, India
Lat 21.151822, Long 79.027442
10/07/2024 01:32 PM GMT+05:30
Note : Captured by GPS Map Camera

केन्द्रीय कपास अनुसंधान संस्थान, नागपुर
CENTRAL INSTITUTE FOR COTTON RESEARCH, NAGPUR
GPS Map Came

VCCE
ERDS MOTORS PVT. LTD.
GPS Map Camera
Nagpur,MH,India
Wanadongri, Nagpur, 440016, MH, India
Lat 21.095048, Long 78.979820
09/20/2024 10:33 AM GMT+05:30
Note : Captured by GPS Map Camera

Blood Donation Camp

Blood donation is a small act that creates a ripple of hope and life.

During its annual event, Itechroots 14.0. the Department of Information Technology successfully organized a Blood Donation Camp on Wednesday, August 7th, 2024. The event took place at the Girl's Common Room in the IT Department at YCCE, Nagpur. This social initiative, held in association with Dattatraya Blood Centre, saw over 100+ donors successfully donate blood, showcasing their overwhelming support. The event aimed to raise awareness about the importance of voluntary blood donation. The event was inaugurated by Dr. Rajesh Dharmik, Head of the IT Department. Medical professionals from Dattatraya Blood Centre managed the blood collection process efficiently. The event marked a great success, with a significant amount of much-needed blood donated, along with raised awareness about the importance of voluntary donations.

SOCIAL ACTIVITES

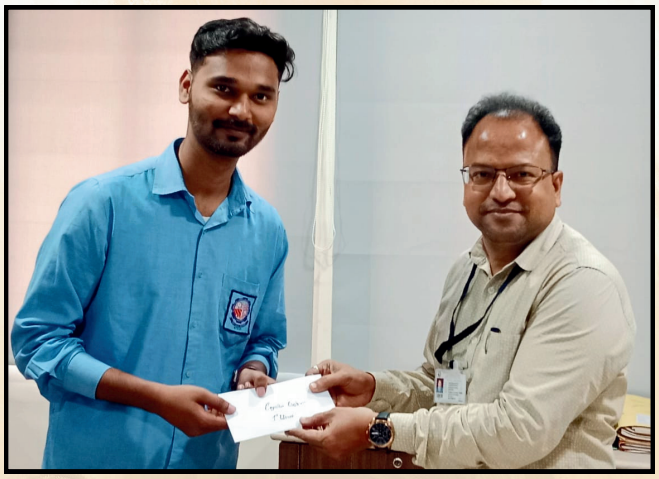
NIRMALYA COLLECTION

An important environmental project called Nirmalya was held in Ambazari, Nagpur, on September 17, 2024. In order to encourage environmentally responsible habits at religious and cultural events, it was planned in partnership with Indoleaders and the Nagpur Municipal Corporation (NMC)

In order to avoid water pollution and guarantee sustainable waste management, the event sought to promote the appropriate disposal of nirmalya (holy offerings). The campaign emphasised the value of group action for environmental conservation by uniting civic authorities and community leaders.

COGNITIVE CLASH

Cognitive Clash is an engaging quiz competition organized by the Department of Information Technology at Yeshwantrao Chavan College of Enggineering Nagpur on 10th October 2024.



The event aimed to foster intellectual engagement and test the analytical and problem-solving skills of participants in a competitive yet enjoyable environment. The competition successfully fostered intellectual growth and teamwork, leaving a positive impact on participants

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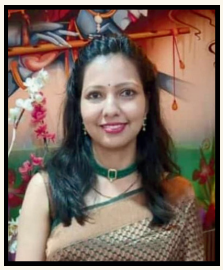

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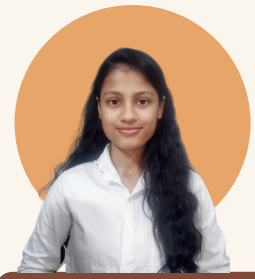

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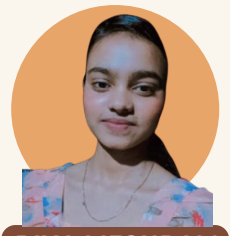

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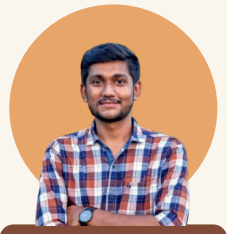

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MAADHYAM

As we close the pages of this edition of **MAADHYAM**, we hope you've enjoyed exploring the blend of creativity, innovation, and knowledge that defines the intersection of **Human-AI Interaction**. This magazine is not just a collection of articles but a reflection of the passion and hard work of every member of our department.

Our journey toward understanding technology and its impact on humanity is ongoing. With each step, we aim to bridge the gap between what is and what can be. The theme of this edition reminds us of the limitless possibilities when humans and machines work in harmony to shape a better future.

We sincerely thank you for your time and curiosity. It is your engagement that motivates us to strive for excellence in every endeavor.

Let this be not the end but a new beginning—a gateway to more ideas, innovation, and collaboration. We look forward to your feedback, contributions, and continued support for **MAADHYAM** in the coming editions.

Until next time,
Team MAADHYAM

"*Innovation distinguishes between a leader and a follower.*" – **Steve Jobs**

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