

# From the HOD's Desk

I do not know whether all of you look forward eagerly to this date- the 31st. March of every year. The reason is not the closing of accounts and final calculation of income tax- the reason is the expectation for our AMPERE, another edition.

It never fails in its objective- it fulfills the target and then goes further. The editors, sub-editors, everyone involved, work tirelessly within a very tight time-frame. I am amazed at their talent when they come up with another spectacular edition of the AMPERE- one of the prides of our ECE department. The team tries to produce something which is not mundane and can not be predicted before the edition is printed and circulated.

I love this spirit of adventurism. The courage to explore an uncharted path- as the famous poet Robert Frost once penned the lines –

"Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference."

is a trait of character possessed only by those, who love challenges and they usually champion the difficulty and end winners.

I cannot go much further after these golden words. I only wish that my students will have the courage to follow this spirit.



~ Prof. Prabir Banerjee HOD, ECE Department

## FROM THE MENTOR'S DESK

It is with immense pride and joy that I present to you March-2025 edition of AMPERE, our departmental e-magazine. Each page of this publication is a testament to the talent, dedication, and relentless efforts of our students, who have worked tirelessly to bring together a collection of inspiring stories, thought-provoking essays, and creative expressions. A special note of appreciation goes to our editorial team, whose commitment to excellence has shaped this magazine into a refined and engaging publication. Their meticulous attention to detail, unwavering patience, and passion for storytelling have truly made this edition stand out. I would also like to extend my heartfelt gratitude to our outwave team, whose efforts have ensured a wide and diverse participation in this magazine. Their dedication in engaging contributors, promoting inclusivity, and ensuring the magazine reaches every corner of our college community is commendable. To everyone who contributed, thank you for making this edition truly special. I hope this magazine inspires, informs, and ignites meaningful conversations. Happy reading!

> ~ Prof. Sayantani Dutta Mentor



# MESSAGE FROM THE EDITORS BOARD

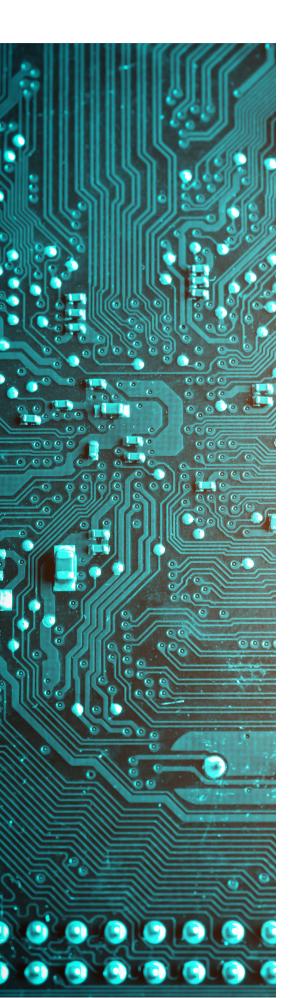
With great excitement, we present the 13th edition of AMPERE with the theme "Cultural Canvas"! Over the years, this magazine has grown into a cherished space for creativity, innovation, and expression within the ECE department. Each issue reflects the enthusiasm of our students, bringing together insightful articles, heartfelt poetry, and captivating photography that truly amplify voices and ideas. We extend our sincere gratitude to Prof. Sayantani Dutta for her guidance and to our Head of Department, Prof. (Dr.) Prabir Banerjee for his unwavering support. A special thank you goes to our dedicated OUTWAVE TEAM, whose passion and hard work continue to elevate the quality of every edition.

As you turn these pages, we hope you find inspiration, knowledge, and a sense of connection. Happy reading!

Best regards,

AMPERE EDITORIAL TEAM





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# Echoes of Time: A Journey Through the Soul of a Forgotten Town

The scent of earth after rain clung to the cobblestone streets as if whispering stories from centuries past. The town of Varanasi wasn't on any modern map, but its soul pulsed with the rhythm of time. Here, under the shadow of banyan trees and beside houses built with stone and memory, life unfolded in the quiet embrace of tradition.

At the heart of the town stood an old temple, its walls bearing the marks of a thousand prayers. Time had softened its edges, but the devotion of those who came each dawn had not wavered. An old woman, wrapped in a faded blue sari, lit a brass lamp at the entrance. "This flame has been burning for as long as I remember," she said, her voice as steady as the ritual itself.

Not far from the temple, a courtyard echoed with the laughter of children, their voices a melody woven into the fabric of the town. They played beneath murals depicting legends—stories of gods and warriors, of love and loss, painted by hands that had long since turned to dust. A young girl traced her fingers along the painted figures, her eyes alight with wonder. "Will these stories stay forever?" she asked her grandfather. He smiled, the lines on his face deep as the history he carried. "As long as someone remembers," he whispered.

Evening brought the scent of spices curling through the narrow alleys. The market, a living relic of another era, came alive with vendors selling sweets wrapped in banana leaves, artisans weaving baskets with reeds from the nearby river, and the rhythmic beat of a tabla from a musician sitting cross-legged by a tea stall. His fingers danced over the drum, echoing the heartbeat of the town.

But Varanasi was not untouched by change. A modern café had opened by the old library, its neon glow standing awkwardly beside the fading ink of handwritten manuscripts. Some welcomed this blending of old and new; others feared that with each glass window and English signboard, a thread of their heritage unraveled.

As the night deepened, the town gathered by the river for the festival of lights. Small earthen lamps, each carrying a wish, floated gently on the water. The river carried them away, just as time carried away moments, memories, and people. Yet, in that moment, beneath a sky filled with ancient constellations, the people of Varanasi stood together—keepers of a legacy, protectors of an essence that could not be erased.

For culture is not just in temples or traditions. It is in the stories whispered under banyan trees, in the laughter of children, in the music that lingers long after the last note is played. It is in the quiet resistance of those who remember. And as long as there are voices to tell the tales, the echoes of time will never fade.

~Aman Prasad Chourasia 3<sup>rd</sup> year

# Beyond Machh Bhatt: A Love Letter to all Non- Bengalis

Growing up in a Bengali household, food was never just about eating —it was a ritual, the heritage of Bengal, a bonding experience, and, most importantly, an heirloom passed down through generations. From waking up to the sound of mustard seeds sputtering or fish frying in the hot oil to falling asleep with the lingering sweetness of nolen gurer sandesh on my tongue, my life has always revolved around food.

Whenever there's a conversation over Bengali cuisine, it predictably stops right at the Machh Bhatt. Of course, fish and rice are our staples, but if that's where you stop, you're missing out on an entire world of flavours that define Bengal's culinary heritage. So, let me take you beyond the obvious and into the heart of the dishes that genuinely make Bengal, well... Bengal

### Rice Is More Than Just Bhatt

As a kid, I never understood why my grandmother had so many different types of rice in her kitchen. To me, rice was just rice. But over time, I realised that each grain has a purpose.

The fragrant gobindobhog is reserved for special occasions and transforms into a golden bhoger khichuri during Durga Puja. There was sita bhog, a fine, aromatic rice that almost felt like eating silk. And then there was panta bhat—fermented overnight, chilled, and eaten with mustard oil, onions, bora (fritter), and gondhoraj lebu (lime) on humid summer afternoons when the thought of hot food felt unbearable.

But the real magic? Khoiai chaler bhat—a coarse rice that felt rugged against the fingers but paired beautifully with a dollop of ghee and a crispy begun bhaja. My thakurma (grandmother) always said, "Rice is not just food; it's tradition." And now, I get it.



## Bengali Veg Delicacies: The Underrated Superstars

If you told me as a child that I'd crave shukto one day, I would have laughed in your face. But here I am, all grown up, savoring the bittersweet melody of this dish that perfectly balances flavors in a way only Bengali kitchens can.

While the world knows only about macher jhol, how many talk about enchorer dalna (jackfruit curry) that tastes almost like mutton, or mochar ghonto (banana blossom cooked with coconut and spices), which takes hours of patience to prepare but disappears from the plate in minutes?

And then there's notey shaak er ghonto, a dish my mother insists I eat for "health benefits" but secretly makes because she knows I'll lick the plate clean. Add a crispy posto bora (poppy seed fritter) on the side and moosoor dal (lentil soup), and there you go, you've got a meal that will make you forget about fish for the day

Over to that, kochubata (taro root paste) and lal shak (red spinach) are very personal to our hearts. Just after the day of Saraswati Pujo, there's a silent excitement of enjoying gota sheddho; the non-appetizing looks yet beautiful taste. Mix all boiled vegetables without any chopping or cutting and then serve it with mustard oil. Heaven just looks like this.

## Aamish—Stories of Fish, Egg, Mutton, and Chicken

Ilish is royalty, and rui kalia has its own place. But some of my most comforting fish dishes are the ones that hardly get the spotlight.

Take tyangra machher jhal, which is at the topmost of the list. It's light, it's spicy, and it reminds me of monsoon afternoons when my mother would make this to chase away the gloom. Or shingi macher jhol, the soup-like dish we were forced to eat when we were sick but now crave even when we're perfectly healthy. Sutki machh, known for its most pungent smell, transforms into a delicacy once served on the plate, tasting like I'm at a five-star restaurant.

And then there's the ultimate guilty pleasure: topse machher fry. This crispy, golden delight was my go-to snack at every family gathering. I remember sneaking into the kitchen and grabbing an extra piece before my aunt could scold me.

Fish kabiraji always competes with our fish fry, which has been famous since the British Raj. Paturi is the showstopper of all time. The leaf used varies from gourd to banana. From chicken to fish, everything can be added to the stuffing. Speaking of chicken, Morog polao is a unique Bengali-style chicken dish, alongside Bengali-style chicken chilli, and on the other hand, mutton dak bungalow with hot, puffed luchi. Bengalis have always been big fans of non-vegetarian food. Whether it's a festival, a get together or a normal lazy Sunday, there always will be some charming, drooling non-veg food on the plate.

### **Street Food That Tells Stories**

Some of my best memories are tied to street food. The thrill of standing in line for phuchka, arguing over an extra free piece and whether the tok jhal mishti balance was perfect, or devouring a kathi roll on a late-night tram ride. But beyond these Kolkata classics, there are unsung heroes.

The deep-fried crispiness of dimer devil, the cousin of French Devil's egg or the chire bhaja, the crunchy joy of nimki stored in metal tins at my grandmother's place, the forgotten charm of bekachori-tarkari at small roadside stalls, the North Kolkata's famous Macher kachori (fish kochuri) or alur chop from Apanjan—these are the actual heartbeats of Bengali street food.

I still remember the first time I tasted jhal muri—puffed rice mixed with chanachur, peanuts, chopped onions, and a squeeze of lime. It was simple yet addictive, and I couldn't understand why my father was laughing at my excitement. "This is the original Bengali junk food," he had said. And he was right.

## Mishti: The Legacy We Carry

If food is an emotion, mishti is poetry. Every family has its favorite, and in mine, rosogolla reigns supreme. But the real magic happens in winter when nolen gurer sandesh makes its grand entrance.

One of my fondest memories is sneaking into the kitchen and watching my dida (grandmother) shape the soft chhana into perfect round sandesh. The smell of patali gur filled the air, and I knew winter had officially begun.

And then there are the lesser-known treasures—chhanar jilipi, the richer, softer cousin of jalebi; jaynagar er moa, a winter-special sweet made of puffed rice and jaggery; and the rare, royal shor bhaja, a layered delight made entirely of milk skin.

But my personal favorite? Payesh. No matter how many birthdays go by, a bowl of thick, creamy chaler payesh garnished with nuts and a hint of cardamom still feels like home.

## A Culinary Heritage Worth Celebrating

Bengali food isn't just a collection of dishes—it's a reflection of who we are. It's the warmth of dal bhat after a long day, the comfort of dim kosha on a lazy afternoon, the excitement of bhuni khichuri when the first drops of monsoon hit the ground and the mutton-aloo-biryani on random Sunday.

Every meal is a story, every bite a memory. And the next time someone asks me about Bengali food, I'll tell them there's a world beyond machh bhatt, and once you taste it, you'll never look back.

# Holi: The Festival of Colors, Culture, and Heritage

Holi, the festival of colors, is one of the most vibrant and joyous celebrations in India. It is a festival that brings people together, erasing social differences and spreading love, happiness, and harmony. Celebrated on the full moon day in the Hindu month of Phalguna (February-March), Holi marks the arrival of spring and symbolizes the victory of good over evil. Rooted in ancient traditions and mythology, this festival reflects India's rich cultural heritage and its spirit of unity and togetherness.

## Cultural and Mythological Significance

Holi has deep cultural and mythological significance, primarily associated with the legend of Prahlad and Holika. According to Hindu mythology, King Hiranyakashipu, a powerful but arrogant ruler, wanted everyone to worship him. However, his son, Prahlad, was a devoted follower of Lord Vishnu. Enraged, Hiranyakashipu ordered his sister Holika, who was immune to fire, to sit in a blazing pyre with Prahlad on her lap. However, due to divine intervention, Holika was burnt to ashes while Prahlad emerged unharmed. This story signifies the triumph of righteousness over wickedness, and in many parts of India, the festival begins with the Holika Dahan ritual, where bonfires are lit to symbolize the destruction of evil forces. Another popular legend associated with Holi is that of Lord Krishna and Radha. Krishna, known for his playful and mischievous nature, once expressed concern about his dark complexion compared to Radha's fair skin. His mother, Yashoda, playfully suggested that he apply colors on Radha's face. This led to the tradition of playing with colors during Holi, symbolizing love, unity, and the breaking of societal norms.

### **Traditions and Celebrations**

Holi is celebrated with immense enthusiasm across India, with each region adding its own unique touch to the festivities. The celebrations begin on the night before Holi with Holika Dahan, where people gather around bonfires, sing songs, and perform rituals. The next day, known as Rangwali Holi, is filled with fun and excitement as people smear each other with vibrant colors, throw water balloons, and dance to the beats of drums and festive songs.

Different states have their own variations of Holi. In Mathura and Vrindavan, the birthplace of Lord Krishna, Holi is celebrated with great devotion and grandeur. The famous Lathmar Holi in Barsana, where women playfully hit men with sticks, is a unique and traditional aspect of the festival. In Punjab, Hola Mohalla is observed by Sikhs with mock battles, martial arts displays, and kirtans. In West Bengal, Dol Jatra is celebrated with processions, devotional songs, and cultural performances, while in Rajasthan, Royal Holi is celebrated with traditional folk dances and grand feasts.

## Influence and Global Recognition

Holi is not just confined to India; its spirit has spread worldwide, with celebrations taking place in countries like the USA, UK, Canada, and Australia, where Indian communities have introduced this festival to the world. People from different backgrounds come together to enjoy the festivities, reflecting the essence of inclusivity and cultural exchange. The festival has also inspired popular events like color runs and music festivals across the globe.

### Conclusion

Holi is more than just a festival of colors; it is a celebration of India's rich cultural heritage, deep-rooted traditions, and timeless stories of love and devotion. It promotes unity, joy, and the spirit of togetherness, making it one of the most cherished festivals in the world. Whether it is through smearing colors, enjoying traditional sweets like gujiya and thandai, or dancing to Holi songs, the festival continues to bring people closer, spreading happiness and positivity across generations.

# Maha Kumbh Mela 2025: Faith, Chaos & Viral Moments You Won't Believe!

The Maha Kumbh Mela 2025, held in Prayagraj, India, was a monumental event that drew millions of devotees from across the globe. Beyond its profound spiritual significance, this year's gathering was marked



by numerous moments that captured the world's attention, blending devotion with contemporary narratives. This article explores the festival's essence, the challenges faced due to the massive crowds, and the viral stories that emerged, reflecting the diverse tapestry of experiences at the Kumbh.

Spanning from January 13 to February 26, 2025, the Maha Kumbh Mela witnessed an unprecedented influx of pilgrims seeking spiritual cleansing at the Triveni Sangam—the confluence of the Ganga, Yamuna, and the mythical Saraswati rivers. Astrologers emphasized the unique celestial alignments during this period, amplifying the festival's sanctity and drawing an estimated 7.64 crore (764 million) attendees.

However, the vast congregation presented significant challenges. Tragically, a pre-dawn stampede on January 29 resulted in the loss of at least 30 lives and injuries to 60 others. The incident occurred as pilgrims surged towards the riverbanks for the auspicious bath, leading to overcrowding and panic. Eyewitnesses recounted heart-wrenching scenes of devotees pleading for more accessible routes, underscoring the dire need for improved crowd management strategies.





Amidst the spiritual fervor, several individuals and moments captured global attention:

'IITian Baba': Abhay Singh, an IIT Bombay alumnus turned ascetic, became an internet sensation. His journey from aerospace engineering to renunciation intrigued many. In a revealing interview, Singh shared that he had earlier worked in Canada, earning a substantial income of Rs 3 lakh per month, but left his lucrative career to pursue spiritual growth. However, controversies arose leading to his expulsion from the Juna Akhara for alleged misconduct. Subsequently, he faced legal issues, including detention for possession of prohibited substances.



'Monalisa Bhosle' Garland Seller: A garland seller, dubbed 'Monalisa' for her striking amber eyes, became a viral sensation. Her captivating presence highlighted the blend of devotion and human interest stories that the Kumbh often brings to light. The internet was captivated by her striking natural beauty, especially her eyes. She has risen to fame, with her newfound popularity landing her a significant role in an upcoming film.

Laurene Powell Jobs' Participation: Laurene Powell Jobs, widow of Apple co-founder Steve Jobs, attended the Maha Kumbh Mela 2025. Given the Hindu name "Kamala" by her guru, Swami Kailashanand Giri, she engaged in various spiritual practices, including meditation and Kriya Yoga.

Digital 'Snan' Initiative: A local entrepreneur introduced a 'digital snan' service for devotees unable to attend in person. He collected photographs of devotees through WhatsApp, printed them, and immersed them at the Sangam, allowing virtual participation in the holy dip.He charged Rs1,100 per person for this symbolic ritual.

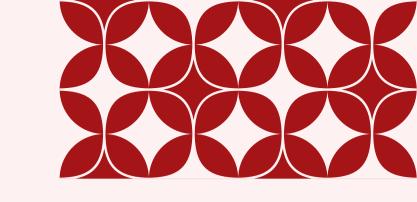
'Harry Potter' Look-Alike: A man bearing a striking resemblance to the fictional character Harry Potter from J.K. Rowling's books were spotted enjoying prasad at the Kumbh, causing a stir and adding a touch of whimsy to the event.Dressed casually in a puffer jacket and jeans, he was seen



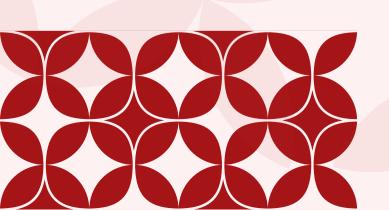
enjoying Prasad from a disposable plate. When a reporter approached him, he remained unfazed, focused on his food, adding an air of mystery to his identity.

The Maha Kumbh Mela 2025 epitomized the profound depths of faith that bind millions, transforming Prayagraj into a spiritual epicenter. While the event showcased the enduring power of belief and tradition, it also highlighted the critical need for meticulous planning to ensure the safety and well-being of pilgrims. The narratives of individuals like 'IITian Baba', 'Monalisa', and the innovative 'digital snan' initiative added layers of intrigue, reflecting the diverse tapestry of human experiences within this monumental gathering.

~Srijit Pradhan 2<sup>nd</sup> year



# TEACHER'S SECTION



# AN OFFICE TOUR THAT TRANSFORMED INTO A DELIGHTFUL EXPERIENCE

going to pen a novel experience, which came my way long back-precisely in 1986. I think background description some here will help the readers to appreciate the situation better. I was in Philips Telecommunication Industries limited at that time and was the senior engineer in the Research and Development department.

Our team had developed totally indigenously the first synthesized multi-channel VHF radio for Police and Para-military departments in 1984. The market naturally welcomed the product since it was a novel and powerful device in India. Kerala Police (KP) was one of our important customers.

They used to connect the entire state using Repeater networks and therefore the number of frequency pairs required by them was high. Our mobile set, sold with the name LTX, were purchased by them in large numbers, since they formed a Repeater station using two mobiles in back-to-back manner.

The installation was successful and our marketing team completed the entire project in time and KP was very happy with the performance.

Suddenly, after about one year, they started to complaint about the degradation in range and performance. Usual practice in such cases is to send service engineers in the field. However, as KP was a valuable customer and there was prospect of further orders, the MD and the Development manager decided to send me as I was in the thick of development of the sets.

On the first day, I visited their workshop and came to know that the sets were re-programmed to cater to their altered requirement. The technical staff reconnected the sets to the feeder cable and antenna systems. I also observed that they had two networks-one operating at low-band and the other operating at high-band. I enquired with the seniors whether they had used some markers or colour codes to identify the low band and high band sets. The answer was a NO.

I immediately attacked the possibility that they had connected accidentally low-band sets to high-band antenna and vice versa. I could identify the band of the set and then checked randomly a few set ups- all showed mix-up.

I talked to Mr. Paul Leslie, the SP of Communications and detailed the cause of the problem. The connections were rectified in six hours and the results were fantastic, even better than the first installation as I retuned parameters like Signal-to-Noise Ratio (SNR).

At the end of the day, as I was about to leave the KP office, Mr. Leslie requested me to accompany him. I told him that after a tiring day, I would like to return to my hotel. He was such a good person that I ultimately decided to go with him.



I accompanied him in his car and to my surprise; my luggage was also in the car. The car made its way to the government VIP guest house on the Kovalam beach. The guest house was meant for VIPs like the CM. The bell-boy collected my luggage and we went to a room, which presented an amazing view of the Arabian sea from the window. The waves were literally caressing the walls of the room and the rolling sound of the waves was too close to be true. We had coffee and snacks together.

As the night progressed, the waves became more violent with tide and I was just gazing at the indescribable beauty of the wild sea. I will remember that night all my life.

I stayed there for one more night and the SP sent car next morning for sightseeing. While leaving the guest house, I asked for my bills and the reception very politely refused and told me all expenses have already been taken care of. I had the flight in the evening and at the airport, the SP came along with a large decorated box. I refused to take it but he was very transparent and intelligent. He said it was all local food items for my family.

I was rather young at that time (about 27 years) and was very happy that I could solve the technical problem so confidently. The special treatment I received was only because they were relieved and happy at the restoration of the communication system, more so as the assembly elections was within one month.

I remember this trip as a special one because of the interesting punching of two events. Particularly, since it was my first experience of the famous Kovalam beach.

Prof. (Dr.) Prabir Banerjee

# THE TAPESTRY OF TRADITION

'Lokkhi Pujo' was always performed on the usual 'Kojagori Lokkhi Pujo' evening in our family.

As a small girl of a curious kind, I would observe my grandmother, mother and aunt decking up the idol of 'Lokkhi' with vermilion and 'alpona' on the forehead and bright clothes. She would then be placed on a lotus seat along with other bright seasonal flowers, sweets, candles and incense sticks. This would be followed by the other pujo rituals and I would tag along with all the ladies in the family and feel enchanted by the ritualistic sounds of the conch and ululation that accompanied the act.

Unlike all other pujo that are performed in a Bengali household, 'Lokkhi' does not approve of the clamorous sound of the cymbals. She is of a quiet kind and to dispel misfortune and to invite fortune and favourable times into our lives, this rule had to be strictly followed.

The school would reopen after Durga Pujo vacation immediately on the following day of 'Lokkhi Pujo'. When I returned home after school the next day, I would see my grandmother waiting for me to perform another ritual and this was way more rewarding than the previous one.

A colourful 'Lokkhir Ghot' (or an earthen piggy bank) would be placed in front of the 'Lokkhi-Narayon' deities in our temple room and the previous one broken open. And lo and behold, there was a heap of notes and coins! The sight was a childish delight as I would get some of that treasure too. My piggy bank grew fatter with my age and only when I absorbed the intent of this tradition, was I able to appreciate its worth.

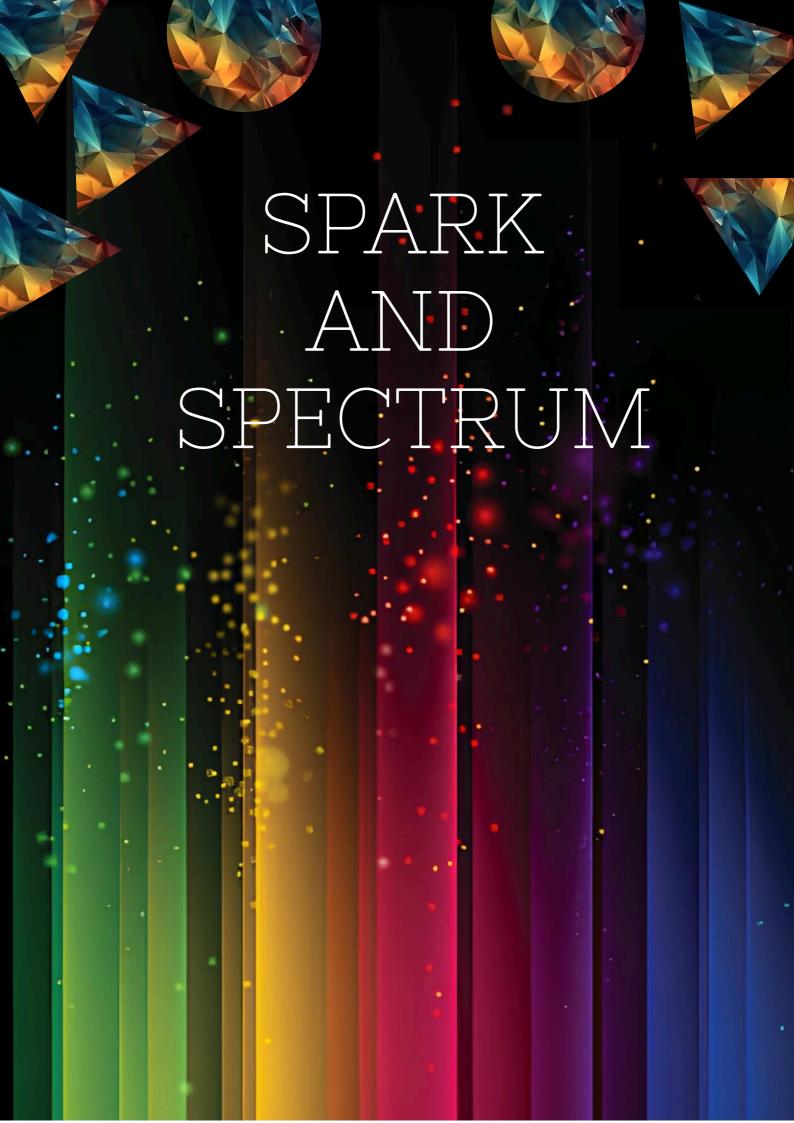
Obviously, the tradition signified Savings and the significance of incorporating it in every sphere of our lives. While the amount in that 'Lokkhir Ghot' was small, my excitement was immense and the feeling of self-sufficiency was incredible.

My grandmother lived a long, zesty life and this ritual was carried out with great pomp till the last 'Lokkhi Pujo' she was around and even now by my mother and aunt in the customary manner.

Strange are the ways of life! From a very tender age, my daughter developed a penchant for piggy banks. Perhaps it was a trend and I took it as a chance to introduce the tradition and strike a soothing chord between the two.

While I would gift her piggy banks that would cater to her evolving taste, my mother would ritualistically give her the feeds for her piggy bank every month and I would not forget to share with her, the unchanging essence of the traditional 'Lokkhir Ghot'. Only time can tell whether she has imbibed the inheritance and is willing to pass it on to her subsequent generations.

To my utmost delight, in one of the pandals of Kolkata Pujo 2024, I got a unique opportunity to relive my childhood stories that revolved around the 'Lokkhir Ghot'. The entire pandal was conceptualised and created out of piggy banks of various shapes, sizes and styles, and I could not help but marvel at the piece of art. I'm sure Thakuma (grandmother) was smiling from above as her anecdotes awashed my ears.





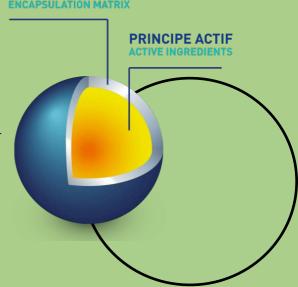
Ever scratched your phone screen and wished it could magically fix itself? Or imagined a bridge that repairs its own cracks? Well, you're not alone! Scientists are rapidly developing "self-healing materials" that can do just that, and it's way cooler than it sounds.

Now here we're talking about materials engineered with built-in mechanisms that trigger repairs when damage occurs. Think of it like a tiny, internal repair crew working 24/7.

### **How Does It Work?**

There are a few ways scientists are achieving this:

• **Microcapsules:** Imagine tiny capsules filled with a healing agent embedded within a material. When a crack forms, these capsules rupture, releasing the agent to fill and seal the damage. It's like having microscopic glue dispensers!



**COUCHE D'ENROBAGE** 



- Reversible Polymer Networks: Some materials are designed with chemical bonds that can break and reform. When damage occurs, these bonds rearrange themselves, effectively "healing" the crack.
- **Shape Memory Alloys:** These materials can "remember" their original shape. When deformed, like bending a metal wire, they can return to their original form when heated.

### Why Should We Care?

This isn't just a science fiction fantasy. Self-healing materials have the potential to revolutionize various industries:

- Electronics: Imagine phone screens that repair scratches or flexible electronics that can withstand wear and tear.
- Construction: Self-healing concrete could extend the lifespan of bridges and buildings, reducing maintenance costs.
- Aerospace: Self-repairing aircraft components could enhance safety and reduce downtime.
- Consumer Goods: Self-healing coatings for cars or furniture could make them more durable and long-lasting.

### The Future is Now (Almost!)

We're not going to be living in a world of unbreakable everything tomorrow. But the progress in this field is remarkable. Scientists are figuring out new ways to make these materials stronger and more versatile.

So, next time you accidentally bump your phone or see a crack in a wall, remember that the future might just be a self-healing solution away. It's a testament to human ingenuity and our relentless pursuit of innovation. And it's just a matter of time before our everyday lives get a whole lot more durable.

Suparna Banerjee ECE-B (2nd Year)



# HOW IS THE FLAT EARTH THEORY STILL A THING ?!

Agniva Bhattacharya ECE A (1st Year)

I will admit it, for many of you reading this, the title must be perplexing to say the least. But rest assured, this Flat Earth Theory is definitely still prevalent among many. Okay, before getting into the details, first things first. If you are reading this, and you have completed 5th grade geography, and have not suffered any brain damage in the past whatsoever, I think you and I can be on the same page here that the Earth is indeed round.

To be more precise it's an oblate spheroid, meaning it's a sphere-like shape that's flattened at the poles and bulged at the equator, rather than a perfect sphere.

There have been many experiments throughout the centuries that prove that the earth is indeed a sphere. I will not bore you with the details of each and every experiment. But let's briefly get into a few of them. Eratosthenes, in 240 BCE, not only proved that the Earth is a sphere, but calculated the Earth's circumference with incredible accuracy for his time. He basically compared shadow angles of 2 sticks planted on the ground at a great distance. The basic idea was that if the Earth was flat, the shadows would be aligned. But, as the Earth was a sphere, the shadows were at different angles.

Even Aristotle noted that travelling southward revealed stars previously unseen in northern region. This change in the visible constellations aligns with the spherical earth theory And even if someone is uninterested to indulge in such complicated mathematics, let's be real for once. The Sun is a sphere, so is the Moon. They are all celestial bodies, and with the help of telescopes, we can even

see that Mars, Jupiter, and all the other planets are also round. So, why out of the blue will Earth be flat? That's the simplest argument against the Flat Earth Theory. But well, if only things were this simple for everyone, as they are for you and me. A 2020 survey in Brazil found that approximately 7% of Brazilians—equating to over 11 million people—believe the Earth is flat.

In the U.S., a 2021 survey revealed that 10% of Americans hold the same belief. The percentage stands at 3% in the UK and 8% in Bulgaria. These figures come from fairly recent studies, highlighting that Flat Earth beliefs persist even today. Now, let's get into the mindset of these people.

The most widely "accepted" Flat Earth model looks something like this: Earth is a circular, flat disc, with Antarctica forming a continuous ice wall around its circumference, acting as a boundary that prevents anything from going beyond. At the center of this disc lies the known landmasses, surrounded by oceans. Above, the sky is enclosed by a giant dome, creating a contained environment. This, in essence, is the Flat Earth model.

Well, before we go any further, let's get one thing straight. If people believe in the Flat Earth Theory, no amount of scientific proof seems to change their minds. NASA has tried countless times to debunk this belief. Many organizations have presented mathematical, trigonometric, and observational proofs. But none of it seems to work. The key trait common among Flat Earthers is that they are also conspiracy theorists. They don't trust government organizations—especially NASA. They believe that the global education system is deliberately hiding the 'truth' that the Earth is flat. That's their general mindset.

NASA has released countless images of Earth as a sphere including photos taken from the Moon–Flat Earthers reject them outright.

To them, the only truth is what they can seewith their own eyes. If they don't perceive any curvature,

they conclude that the Earth must be flat. What they fail to realize is that not everything can be determined by intuition alone. The Earth is indeed round —but it's so vast that its curvature

isn't visible to the naked eye. It's that

Now, you might think that all Flat Earthers are ignorant of science and oblivious to scientific findings. But that's not entirely true. Some of them actually believe in scientific experiments—just their own. Take, for example, a Californian Flat Earther who, in December 2024, set out on what he called his 'final experiment.' Determined to prove the Earth was flat once and for all, he embarked on a 9,000-mile journey and spent 30,000 pounds traveling to Antarctica. But by the end of his expedition, he admitted defeat—conceding that the Earth is indeed round.

His hypothesis was simple: if Earth were truly flat, the Sun should never remain in one spot for 24 hours. However, if Antarctica experienced continuous daylight, it would be evidence that Earth is a sphere. After witnessing the 24-hour Antarctic Sun firsthand—and observing that sunlight reached other parts of the world in a manner consistent with a spherical Earth. His experiment, intended to confirm a flat Earth, ended up proving the opposite—he was now

forced to accept reality - "Earth is a sphere" and "I just went broke for this stupid experiment".

But other Flat Earthers? They're different. They don't want to let go of their intuition, no matter how much proof is shown to them. And that's the frustrating thing about science, isn't it? When it goes against what feels right, it's hard for some people to accept.

For them, the Earth looks flat—so they believe it must be flat.

But it's not just about intuition. Many of them don't want to put in the effort to question their beliefs. Accepting reality takes work, and they simply don't want to do it.

On top of that, they have a deep distrust of government organizations. Sure, governments around the world do shady things—that's nothing new..

But thinking that all governments, even even enemy nations, are

working together to hide the same 'truth' just doesn't make sense.

Think about it— America and Russia are rivals. They don't agree on much. So why would two opposing countries help each other cover up the same

Think about it—America and Russia are rivals. They don't agree on much. So why would two opposing countries help each other cover up the same secret? And more importantly, what would they even gain from it? That's something Flat Earthers really need to think about.

At the end of the day, we need to fix this education gap. We have to change how science is taught so that more people are interested in real experiments and real facts. People should be encouraged to think for themselves, but in a way that actually makes sense. If we don't work on this, these false beliefs will never go away. Honestly, I wouldn't even be writing this if it wasn't still a problem.

But just last week, I saw a podcast where a NASA scientist was still trying to convince Flat Earthers that the Earth is round. That was my breaking point. This was an astronomy podcast—made for people who want to learn about space, not for debunking ideas that should have died out long ago. Why are we still wasting time on this? This is basic geography—something that should be settled in elementary school, not debated in scientific discussions. And that's exactly what we need to fix.

## NEUROMORPHIC COMPUTING



**Neuromorphic Computing:** 

Mimicking the Human Brain

The quest to build machines that think and learn like humans has led to one of the most exciting breakthroughs in modern computing—neuromorphic technology. Unlike conventional processors that rely on sequential logic, neuromorphic systems are designed to emulate the structure and functionality of the human brain, bringing efficiency, adaptability, and unparalleled intelligence to computing.

The Need for Neuromorphic Computing
Traditional computing architectures, built on the von Neumann model, often struggle with power-hungry AI applications. The need to constantly move data between memory and processing units creates bottlenecks that limit speed and efficiency. Neuromorphic computing overcomes these hurdles by employing spiking neural networks (SNNs), which process information in an event-driven manner, much like biological neurons. This allows for faster decision-making and significantly lower power consumption.

Unlike traditional AI accelerators, neuromorphic chips operate asynchronously, meaning they process data only when required, leading to

Core Technologies Behind Neuromorphic

remarkable energy efficiency. This makes them

ideal for applications such as robotics, edge AI,

Computing

and low-power IoT devices.

A key element in neuromorphic chips is the memristor—a component that mimics the way synapses strengthen or weaken based on experience. Unlike traditional transistors, memristors enable machines to learn and adapt, paving the way for truly intelligent AI systems that evolve over time. Other core components include specialized silicon neurons and synapses designed to process information in real-time. Additionally, neuromorphic architectures leverage non-volatile memory and in-memory computing, reducing the need for external data transfer, thereby minimizing latency and improving efficiency. This allows Al systems to process complex tasks, such as image and speech recognition, in a fraction of the time required by conventional architectures.

**Industry Leaders and Applications** 

Industry leaders such as IBM, Intel, and SynSense are pioneering advancements in this field. IBM's TrueNorth and Intel's Loihi chips demonstrate how neuromorphic processors can outperform traditional AI accelerators in tasks that require pattern recognition, real-time learning, and ultra-low power operation. These chips are finding applications in robotics, autonomous systems, and even medical diagnostics.

Neuromorphic computing is also making strides in real-time decision-making systems, such as autonomous vehicles and drones. With their ability to process sensory data efficiently, neuromorphic processors can enhance object detection, navigation, and real-world interaction, making AI-driven automation more responsive and reliable.

The Future of Neuromorphic

Computing

Looking ahead, neuromorphic computing has the potential to revolutionize the AI landscape. As research progresses, we can anticipate systems that not only process vast amounts of data efficiently but also understand and respond to information in a human-like manner. With developments in hardware, software, and neural algorithms, neuromorphic chips could one day bridge the gap between artificial intelligence and true cognitive computing, transforming the way we interact with technology and the world around us.

Raima Das ECE C (3rd Year)

# AI in Scientific Research and Advanced Semiconductor Manufacturing: Transforming Science and Technology

AI in Scientific Research: Enhancing Innovation

Artificial Intelligence (AI) is playing an increasingly significant role in scientific research, revolutionizing the way data is processed and experiments are conducted. One of the key advancements is the use of customized AI datasets, which allow researchers to train models with highly specific and relevant information. This has been particularly beneficial in fields like drug discovery, material science, and self-driving technology.

In AI-driven scientific studies, compound AI systems have been developed to leverage multiple data sources, reducing errors and biases in research outcomes. Unlike conventional models, these systems use a "mixture of experts" approach, where multiple smaller models specialize in different tasks instead of relying on a single large neural network. This results in improved accuracy and efficiency.

Another breakthrough is the use of synthetic data to train AI models. When real-world data is scarce or expensive to obtain, researchers generate artificial datasets that mimic real conditions. This has proven useful in areas like climate modeling, biomedical research, and robotics. AI is also being used for real-time simulations, accelerating complex calculations in quantum mechanics, chemistry, and astrophysics. By reducing the time needed for computations, AI enables scientists to focus on interpreting results rather than spending excessive time on data processing.

These innovations are not just theoretical; they are actively being applied. MIT and Toyota are using AI models to train self-driving cars, ensuring they perform well in real-world environments. AI-powered material science research is also aiding the development of Metal-Organic Frameworks (MOFs) for sustainable applications, including carbon capture and energy storage. With continuous improvements, AI is expected to reshape scientific methodologies, making research faster, more precise, and highly scalable.

Advanced Semiconductor Manufacturing: The U.S. Semiconductor Renaissance

Semiconductors are the backbone of modern electronics, powering everything from smartphones to supercomputers. In recent years, geopolitical tensions and supply chain disruptions have exposed the vulnerabilities of global semiconductor manufacturing. To address these challenges, the U.S. government has launched initiatives under the CHIPS Act, aiming to revitalize domestic chip production.

One of the most significant developments in 2025 is the opening of a new TSMC semiconductor fabrication plant in Arizona. Taiwan Semiconductor Manufacturing Company (TSMC), the world's leading chipmaker, is bringing its advanced 3nm and 2nm process nodes to the U.S., marking a major shift in semiconductor production. This facility is expected to boost America's self-reliance in high-end chip manufacturing and reduce dependency on Asian supply chains.

The move aligns with broader trends in semiconductor innovation, including reversible computing. This emerging technology reduces energy consumption in processors by allowing computational steps to be undone, minimizing heat dissipation and power wastage. Such advancements are crucial as demand for energy-efficient computing grows in AI, cloud computing, and quantum technologies.

The resurgence of U.S. semiconductor manufacturing will also benefit industries like automotive, defense, and consumer electronics, ensuring a steady supply of advanced chips. As the semiconductor race intensifies,

investments in research, infrastructure, and workforce development will play a key role in determining the future of global technology leadership.

These advancements in AI and semiconductor manufacturing highlight how cutting-edge technologies are reshaping scientific research and electronics, paving the way for a more innovative and self-sufficient future.

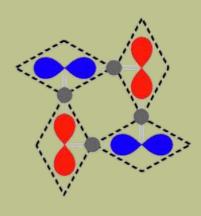
Dattatreya Chakraborty ECE B (2nd Year)



# SCIENCE, TECHNOLOGY & ELECTRONICS

1. Altermagnetism: A New Magnetic Phenomenon

An international research team has discovered and controlled a new type of magnetic flow called altermagnetism. Unlike traditional ferromagnetic materials, altermagnetic materials can sustain magnetic activity without being magnetic themselves. This breakthrough could revolutionize electronic devices by making them faster and more reliable, potentially enhancing the speed and efficiency of microelectronic components and digital memory.





### 2. AI-Powered Consumer Electronics

The recent Consumer Electronics Show showcased a plethora of devices integrated with generative artificial intelligence. Companies like Google, Amazon, LG, and Hisense unveiled products ranging from televisions and cars to washing machines, all equipped with advanced AI capabilities. This trend signifies a transformative shift in how consumers interact with everyday electronics, making them more intuitive and responsive.

3. Graphene-Based Cooking Technology

South Korea's Graphene Square has innovated traditional cooking appliances by replacing conventional nickel-chromium heating elements with graphene. This highly thermally conductive material allows the device to cook food using only 600 watts—half the power required by standard cookers. Additionally, the graphene-based cooker is more environmentally friendly, offering a sustainable alternative to traditional cooking methods.



Aman Prasad Chourasia ECE A(3rd Year)

# SPARK & SPECTRUM: The Power of Innovation and Diversity

In a world driven by rapid change, the concepts of 'spark' and 'spectrum' embody the essence of creativity, innovation, and diversity. A spark ignites new ideas, while the spectrum represents the vast array of possibilities and perspectives that fuel progress. Together, they define the dynamic forces shaping industries, societies, and human potential.

The Spark of Innovation Innovation begins with a spark—a sudden burst of inspiration that disrupts the status quo. From groundbreaking scientific discoveries to transformative technological advancements, innovation has always been the driving force behind human progress. Entrepreneurs, researchers, and artists alike rely on this initial spark to challenge conventions and create groundbreaking solutions. However, fostering innovation requires more than just inspiration; it demands resilience, collaboration, and an environment that nurtures curiosity.

The Spectrum of Diversity
A spectrum symbolizes variety, inclusivity, and the richness of different perspectives. Whether in culture, technology, or business, diversity fuels innovation by bringing together unique viewpoints and experiences. Studies show that diverse teams are more creative and better equipped to solve complex problems. In industries ranging from entertainment to engineering, embracing a broad spectrum of ideas ensures sustainable growth and meaningful progress.

Bridging Creativity and Inclusion
The intersection of creativity and inclusivity is where true transformation happens. When individuals from different backgrounds collaborate, they generate fresh insights that drive industries forward. In education, diverse curriculums prepare students for a globalized world. In business, inclusive leadership fosters a culture where every idea has the potential to spark the next big breakthrough. By bridging gaps and embracing differences, societies can create more resilient and innovative futures.

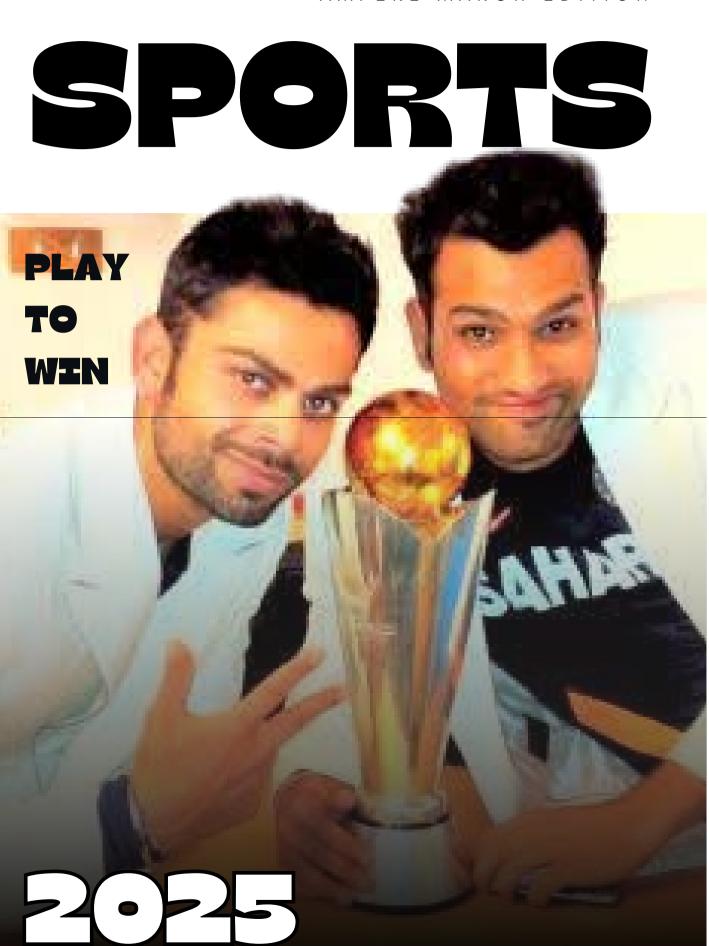
Challenges and Opportunities
While innovation and diversity offer
limitless possibilities, challenges remain.
Resistance to change, biases, and systemic
barriers often hinder progress. Yet,
overcoming these obstacles is possible
through awareness, policy changes, and
active engagement. Organizations that
prioritize inclusivity and innovation not
only thrive but also set new benchmarks
for excellence.

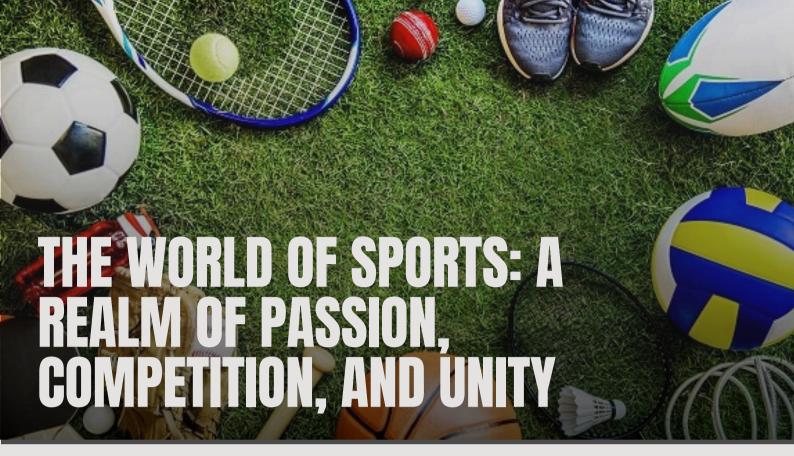
The Future: A Bright Spectrum of Possibilities

The future belongs to those who harness both spark and spectrum—the bold thinkers who ignite change and the diverse voices that shape it. As technology advances and societies evolve, embracing innovation and diversity will be crucial for progress. The key lies in fostering environments that celebrate creativity, encourage collaboration, and dismantle barriers to inclusion.

Whether in science, business, or the arts, the world's greatest achievements come from those who dare to think differently and those who embrace a wide spectrum of perspectives. By nurturing both spark and spectrum, we can build a future that is not only innovative but also inclusive and empowering for all.

Ahana Sen ECE A (3rd Year)





ports have long been a universal language, transcending borders, cultures, and generations. Whether played for leisure, competition, or national pride, sports bring people

together, fostering camaraderie, discipline, and resilience. In today's world, athletics continue to evolve, influenced by technology, social movements, and economic factors, making the sports

ndustry a dynamic and ever-changing landscape.

#### The Rise of Technology in Sports

From instant replays to wearable fitness

trackers, technology has revolutionized sports in countless ways. Advanced analytics, artificial intelligence, and virtual training reality have enhanced performance and strategy, allowing athletes to push their limits. Furthermore, innovations like VAR (Video Assistant Referee) and goal-line technology ensure fair play, although they have sparked debates over their impact on the game's spontaneity. The fusion of sports and technology is an ongoing journey, shaping the way athletes train, compete, and recover.

#### The Globalization of Sports

The reach of sports has never been wider, with international leagues, digital

broadcasting, and social media bringing games to audiences worldwide. Events like the FIFA World Cup and the Olympics unite people across continents, demonstrating the power of sports to foster global unity. As emerging markets embrace professional leagues and talent scouting expands internationally, we see new faces rise to prominence, diversifying the world of athletics.

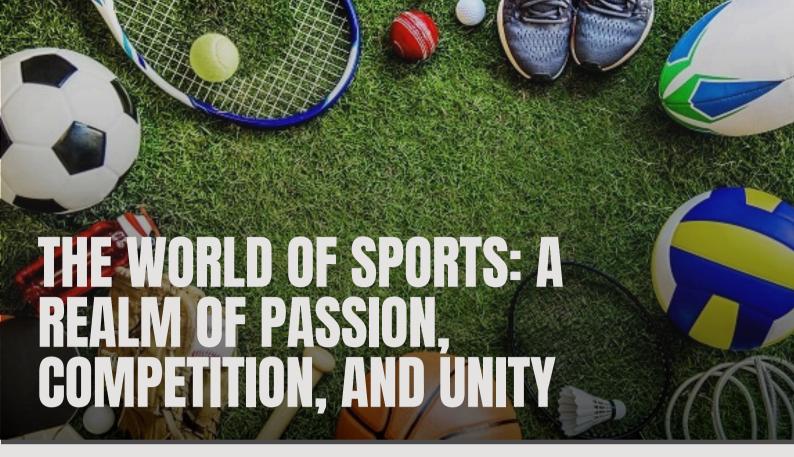
#### Social and Cultural Impact

Beyond the field, sports serve as a powerful platform for social change. Athletes are using their influence to advocate for racial equality, gender inclusivity, and mental health awareness. Campaigns like "Black Lives Matter" in sports and the growing recognition of women's leagues highlight how the industry is evolving towards inclusivity and fairness. While challenges remain, the role of athletes as role models and change-makers continues to grow.

#### The Business of Sports

The sports industry is an economic powerhouse, generating billions of dollars annually through sponsorships, endorsements, and broadcasting rights. Major brands partner with star athletes, and franchises leverage digital platforms to engage with fans. However, issues such as athlete compensation, financial disparity among leagues, and ethical concerns surrounding commercialization raise





important questions about the future of sports as both a business and a passion.

### The Future of Sports

As the world continues to change, so too will sports. The integration of technology, the push for social justice, and the increasing demand for sustainability in athletics will shape the next generation of competitions. Despite challenges, the essence of sports—passion, teamwork, and excellence—remains unchanged. The future promises new legends, groundbreaking innovations, and moments of triumph that will continue to inspire millions.

Sports are more than just games; they are a testament to human perseverance and unity. No matter the discipline or arena, the world of sports will continue to captivate and inspire generations to come.

- Ahana Sen 3<sup>rd</sup> Year





### WHAT'S INSIDE?

IN THE WORLD OF INDIAN SPORTS, WHERE CRICKET OFTEN DOMINATES THE LIMELIGHT, TABLE TENNIS HAS QUIETLY CARVED ITS NICHE, THANKS TO THE RELENTLESS EFFORTS OF ONE MAN—SHARATH KAMAL ACHANTA.



### THE STORY

A name synonymous with excellence, resilience, and passion, Sharath Kamal has not only elevated the status of table tennis in India but has also inspired generations to pick up the paddle.

Sharath Kamal's journey began at a young age, influenced by his father and uncle, both former players. With a natural flair for the game and an unyielding determination, he quickly rose through the ranks. His breakthrough came in 2003 when he clinched his first national title, setting the stage for a career that would redefine Indian table tennis

Sharath Kamal's achievements are nothing short of extraordinary. A ten-time national champion, he has represented India in five Olympic Games, a testament to his longevity and consistency.



He is also a great mentor and role model for several young Indian paddlers he is a real life example for many young aspiring table tennis players ,like in his games he uses counter shots to silence the opponents in the similar way we must learn from the paddler to effectively face the difficulties in our life and handle them comfortably with an ease .His consistency and magnificent performances has elevated India's presence in the International Table Tennis.Table Tennis is a sport that once used to be dominated by Asian powerhouse like Japan, China and Taiwan but players like Achanta has elevated the Indian Table Tennis Standards and proved that India is also not lacking behind in this sport. His Commonwealth record at the Games unparalleled, with 13 medals, including multiple golds in singles, doubles, and team events, be it 2006 Melbourne or 2018 Gold coast Commonwealth games he had consistently shown that discipline. Notably, his performance at the 2022 Birmingham Commonwealth Games, where he secured four medals, including three golds, showcased his enduring prowess even in his 40s.He also played very well during the last Paris Olympics 2024 where he was able to get into the Round 16 and faced the legendary Chinese player Fan Zhendong and what a fabulous match

it was that clearly showcased his enduring skill and determination. Sharath is also a recipient of prestigious awards including the Padma shri (2019) and the Khel Ratna(2022) for his outstanding contribution to the Indian sports.

Beyond the Commonwealth Games, Sharath Kamal has made his mark on the global stage. He became the first Indian paddler to win an ITTF Pro Tour title at the Egypt Open in 2010 and added another international title at the Oman Open in 2020. His contributions at the Asian Games, where he secured two bronze medals, further cemented his legacy as India's table tennis torchbearer.

What sets Sharath Kamal apart is not just his skill but his ability to adapt and evolve. Overcoming injuries and challenges, he has consistently reinvented his game, proving that age is just a number. His leadership on and off the court has been instrumental in nurturing young talent and raising the profile of table tennis in India.

As Sharath Kamal prepares to bid farewell to professional table tennis at the "WTT Star Contender" in Chennai in March 2025, his legacy still remains preserved in the golden records of Indian sports. His journey is a reminder that with passion, perseverance, and hard work, one can overcome any obstacle and achieve greatness



Sharath Kamal Achanta is not just a player; he is a phenomenon, a trailblazer, and an inspiration. As he steps into a new chapter of his life, his contributions to Indian table tennis will continue to resonate, inspiring countless others to dream big and aim higher.

- Aneesh Pal 1st Year

2025

Most
Valuable
Sports Leagues

- International Basketball League: A new \$5 billion international basketball league is being established, backed by entities such as Singapore's government, Macau's Galaxy Entertainment, Saudi Arabia's Public Investment Fund, and Swiss bank UBS. Spearheaded by Maverick Carter, the league aims to challenge the NBA by creating a circuit of men's and women's teams in host cities, including Macau and Singapore.
- League One Volleyball (LOVB): Private equity and venture capital funds are increasingly investing in volleyball, with the launch of a new women's league in the U.S. called League One Volleyball (LOVB). Backed by Ares Management and Blackstone executive David Blitzer, LOVB aims to become the "NBA of volleyball" and retain top U.S. talent that typically moves to Europe or Asia.

Aman Prasad Chourasia 3<sup>RD</sup> YEAR

## CHAMPIONS AGAMI

ICC CHAMPIONS TROPHY 2025

### ICC CHAMPIONS TROPHY 2025: INDIA CLINCHES THE TITLE IN GRAND STYLE

The ICC Champions Trophy, often regarded as the "Mini World Cup," is one of the most prestigious tournaments in international cricket. First held in 1998, this competition features the world's top-ranked teams battling for supremacy in the One Day International (ODI) format. Over the years, the tournament has witnessed thrilling encounters, iconic performances, and memorable victories. After an eight-year hiatus, the ICC Champions Trophy returned in 2025, promising intense cricketing action. The biggest headline of the tournament, however, is India's glorious triumph, marking their third Champions Trophy victory after their wins in 2002 (shared with Sri Lanka) and 2013.

#### • India's Journey to Glory

India entered the 2025 Champions Trophy as one of the favorites, boasting a balanced squad with a mix of experienced players and young talents. Under the captaincy of a dynamic leader, India showcased exceptional performances throughout the tournament. From dominant wins in the group stage to handling pressure in the knockout rounds, the Indian team displayed remarkable resilience and skill.

The road to the final was not easy. In the group stage, India faced tough competition from teams like Bangladesh, Pakistan, and New Zealand. However, with brilliant batting performances and lethal bowling spells, they secured a spot in the semi-finals. One of the standout moments was a thrilling victory against Australia in the semi-finals.

#### • The Grand Finale

The final of the ICC Champions Trophy 2025 was a spectacle, with India facing New Zealand in a high-octane clash. The match, held in Dubai, added an extra layer of pressure. Batting first, New Zealand posted a competitive total of 251, with the Indian spinners playing a crucial role by dismissing the top and middle-order batsmen.

The highlight of the match was a sensational 76 by Indian captain Rohit Sharma while chasing 252, setting the momentum for the Indian team. With a collective team effort, India secured a historic victory.

#### India's Champions Trophy Legacy

With this triumph, India cemented its legacy in Champions Trophy history, becoming one of the most successful teams in the tournament's record books. This victory was particularly special, as it marked India's first ICC ODI title since the 2023 World Cup heartbreak. The players, coaches, and fans celebrated this achievement with immense joy and pride.

#### Conclusion

India's victory in the ICC Champions Trophy 2025 was not just a testament to their cricketing excellence but also a reflection of their determination, teamwork, and hunger for success. The win will be remembered as a defining moment in Indian cricket, inspiring future generations. As the cricketing world looks ahead to more thrilling tournaments, India's triumph in 2025 will remain a golden chapter in the nation's sporting history.

# DATTATREYA CHAKRABORTY 2ND YEAR The story behind the success

## মৃতপ্রায় ভারতীয় ফুটবল

#### THE DYING INDIAN FOOTBALL

সঙ্কটজনক অথচ সব আশা শেষ হয়ে যায়নি, এমন এক রুগীর সাথে নিঃসঙ্কোচে তুলনা করা যায় ভারতীয় ফুটবলকে। বর্তমান ফিফা র্যাঙ্কিং ১২৬, একদা "এশিয়ার ব্রাজিল" এখন এক এমন হাস্যাস্পদ অথচ করুন জায়গায় দাঁড়িয়ে (বা হয়তো ক্রিকেটের চোরাবালিতে নিমজ্জিত অবস্থায়), যা ফুটবলপ্রেমীদের কাছে রীতিমতো যন্ত্রণাদায়ক। কিংবদন্তি সুনীল ছেত্রীর কোনো বিকল্প এখনো আমাদের হাতে নেই, তাই বিপদতারণ মধুসূদন হয়ে চল্লিশ বছর বয়সে তাঁকে অবসর ভেঙে ফিরে আসতে হয় জাতীয় দলে! বিকল্প নতুন ভারতীয় সেন্টার ফরোয়ার্ড কি নেই? আছে, কিন্তু তাদেরকে আমাদের সর্বভারতীয় ফুটবল ফেডারেশন নির্দ্ধিধায় উপেক্ষা করে।

কোনো অজানা কারণে ডেভিড কিংবা লালরিনজুয়ালা ডাক পান না ন্যাশনাল ক্যাম্পে। সদ্য সমাপ্ত ইণ্ডিয়ান সুপার লিগের অবস্থানে সবার শেষে ছিল কলকাতার তিন প্রধানের অন্যতম মহামেডান স্পোর্টিং ক্লাব। সেই টিমের স্কোয়াডে ছিলেন এবারের সস্তোষ ট্রফি জয়ী বাংলা দলের সেন্টার ফরোয়ার্ড রবি হাঁসদা। গোটা মরসুম একজন গোল চেনেন এমন ফরোয়ার্ডের অভাবে ভুগেছে মহামেডান, বিদেশীরা ভরসা দিতে ব্যর্থ হয়েছেন। তাও খুব বেশি সুযোগ পাননি রবি, যখন যেটুকু পেয়েছেন নিজের জাত চিনিয়েছেন। অথচ এই রবি এই বছরের সস্তোষ ট্রফির গোল্ডেন বুটজয়ী (সর্বোচ্চ গোলদাতা), ভেঙে দিয়েছেন কিংবদন্তি মহম্মদ হাবিবের রেকর্ড (একটি সম্ভোষ ট্রফির টুর্নামেন্টে সর্বোচ্চ গোল)। তাও স্রেফ ভালো এজেন্টের অভাবে আইএসএল খেলার যথেষ্ট সুযোগ পেলেন না রবি।





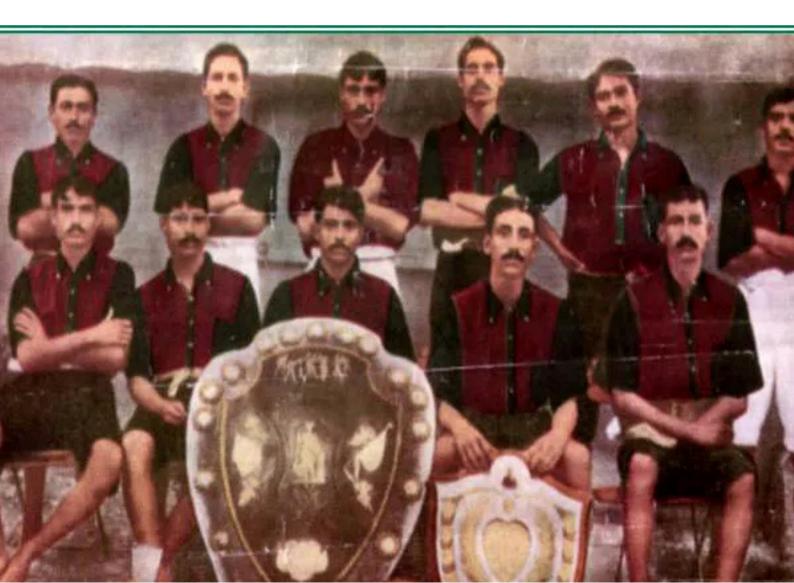
গতবারের আইলিগের সর্বোচ্চ ,ভারতীয় গোলদাতা লালরিনজুয়ালা লালবিয়াকনিয়া এবারেও অত্যন্ত ধারাবাহিক.গোলদাতাদের তালিকায় প্রথমে, বিদেশী স্ট্রাইকারদের হারিয়ে। গতবার কিংবদন্তি সুনীল ছেত্রীর রেকর্ড ভেঙেছিলেন আইজল এফসির তারকা (এক আইলিগ মরসম সর্বোচ্চ ভারতীয় গোলদাতা), এবারও ইতিমধ্যেই पुरे সংখ্যায় পৌঁছে গিয়েছেন লালরিনজুয়ালা। অথচ ডাক পান না জাতীয় দলে।গতবারের আইলিগ জয়ী মহামেডান দলের স্তম্ভ ছিলেন ডেভিড লালহানসাঙ্গা। জিতেছিলেন ডুরাণ্ড কাপের গোল্ডেন বুট, ভালো টিমে খেলা বিদেশী স্ট্রাইকারদের হারিয়ে। ডেভিডের গোল করার দক্ষতা (বিশেষত অ্যান্কোবাটিক গোলের প্রচেষ্টা এবং সাফল্য, যা ভারতীয়দের মধ্যে এখন রীতিমত বিরল). পোজিশনিং সেন্স, ঠাণ্ডা মাথা, বুদ্ধিমত্তা ও ওয়ার্ক রেটের জন্য ডেভিডকে সুনীলের যোগ্য উত্তরসূরি ভাবা হচ্ছিল। সেই ডেভিড এবার যোগ দিয়েছেন ইস্টবেঙ্গলে। ইস্টবেঙ্গলের তারকা বিদেশি ফরোয়ার্ড দিমিত্রিওস দিয়ামান্তাকোস এবার ধারাবাহিকভাবে খারাপ পারফরম্যান্স করা সত্ত্বেও খব বেশি গেম টাইম পান নি ডেভিড।

অথচ যেটুকু পেয়েছেন তাতেই এমন সব গোল করেছেন ডেভিড, যা তার অসাধারণ প্রতিভার সামান্য ঝলক মাতৃৰা অথচ তাও এইসব উদীয়মান তারকারা কেনো সুযোগ পান না, ভাববার বিষয়। আইএসএলে দুর্দান্ত পারফর্ম করা জিতিন এমএস, দিপেন্দু বিশ্বাস, লিস্টন কোলাসো, পি.ভি. বিষ্ণু, চুঙ্গা, জোসেফ সানি, আয়ুষ ছেত্রী এবং আরো অনেক ফুটবলার ডাক পান না জাতীয় শিবিরে। প্রত্যেকবার সুযোগ তারাই পান যারা এর আগেও সুযোগ পেয়েছেন এবং নষ্ট করেছেন। গত কয়েক বছরে দেশের সবচেয়ে ধারাবাহিক গোলকিপার বিশাল কাইথ। অথচ মোহনবাগানের বাজপাখি বিশাল জাতীয় দলের তৃতীয় গোলকিপার! অবিশ্বাস্য! প্রথম এবং দ্বিতীয় যথাক্রমে গুরপ্রীত সিং সান্ধু ও অমরিন্দর সিং, এই যাদের অজস্র ভূলে ভারত বহু ম্যাচ হেরেছে। অথচ তাও বিশাল কেনো ফার্স্ট চয়েস কিপার নন, রহস্য বোধহয় শার্লক হোমস, ফেলুদা, ব্যোমকেশ সবাইকে একসাথে হয়ে ভেদ করতে হবে। তার ওপর স্প্যানিশ কোচ মানোলো মার্কেজ রোকার টিকি-টাকা ফুটবল আদৌ ভারতীয়দের জন্য উপযুক্ত নয়। ফুটবলে ভারতের পিছিয়ে থাকার একটা বড় কারণ হলো মানসিকতা। ভারতীয়রা ফুটবলকে যেদিন "ওঁতোগুঁতির খেলা" খেলা ভাবা বন্ধ করবে, সেদিন থেকে উন্নতি শুরু হবে।



ট্যাকটিক্স ফলো না করা, অহেতৃক চার্জ করা, অনর্থক ড্রিবল করা বা স্কিল দেখানো কিন্তু সঠিক সময়ে সঠিক পাস না বাড়াতে পারা ভারতীয়দের দুর্বলতা। ফাইনাল থার্ডে ডিসিশন মেকিং এবং গেম সেন্সের অভাব একটা বড় সমস্যা। অনেক কাটালাম অথচ পাস দিতে পারলাম না. এর মধ্যে কোনো वारापति त्नरे। ফুটবলটা किन्छ বল পায়ে রাখার খেলা নয়, সঠিক সময় সঠিক ভাবে বল পাস করার খেলা, বরং বল পায়ে যত কম থাকবে তত খেলার গতি ও মান বাড়বে। চ্যাম্পিয়ন্স লিগ বা বিশ্বকাপে একজন ফুটবলার পায়ে বল পায় গড়ে মাত্র ৩ মিনিট! অথচ তাতেই তারা বাজিমাত করতে পারে। এছাড়া ফিনিশিং তো চিরন্তন সমস্যা। দুরপাল্লার শট নেওয়ার প্রবণতাও ভারতীয়দের মধ্যে বিরল। ডিফেন্ডিং মানে যখন তখন বডি চার্জ করা নয়, প্রেসিং করাটাই ডিফেন্ডিং। আর প্রেসিং মানে ট্যাকেল করা বা চার্জ করা নয়, পোজিশন ধরে রাখা এবং অ্যাটাকারের সমস্ত পাসিং অ্যাঙ্গেল ব্লক করে রাখা। নিঃস্বার্থ ভাবে খেলাও দরকার, কারণ ফুটবলটা একজনের খেলা নয়, এগারো জনের খেলা। টেকনিক্যাল বিষয়গুলি গুরুত্ব না দেওয়ার কারণে আমাদের অবনতি এত দ্রুত হচ্ছে।

নিন্দুকেরা বলবে অহেতুক সমালোচনা করছি, তবে নিজের কলেজে যেই গুণমানের ফুটবল দেখেছি, তা দেখে দর্শক হিসেবে বেশ হতাশা অনুভব করি। সঠিকভাবে খেলে জেতা আর যেমন তেমন করে জিতে যাওয়ার মধ্যে তফাৎ আছে, এটাই আমরা বুঝতে চাইনা। উঠতি ভারতীয় ফুটবলাররা বিদেশে গিয়ে খেলতে বড় অনিচ্ছুক। তার দুটো কারণ: ১) এখানে তাদের স্যালারি বেশি, ২) দারিদ্রা। প্রথমটার সমাধান করতে হবে ক্লাবগুলোকে। এমন শর্ত রাখতে হবে যে মিনিমাম ৩ বছর বাইরের কোনো ক্লাবে (ফুটবল খেলুড়ে দেশের ক্লাব, হোক না সে দ্বিতীয় ডিভিশন বা তৃতীয় ডিভিশন ক্লাব) খেললে তবেই তারা বেশি স্যালারি পাবে। আর দ্বিতীয়টির সমাধান করতে হবে সরকারকে। দরিদ্র অথচ প্রতিভাবান প্লেয়ারদের ভরণপোষণের দায়িত্ব নিয়ে তাদের জোর করে পাঠাতে হবে বিদেশে খেলার জন্য, তাহলেই তাদের খেলার উন্নতি হবে। স্পোর্টিং লিসবনের "বি" টিমে খেলার আগের সুনীল আর খেলার পরের সনীলের মধ্যে আকাশ পাতাল পার্থক্য ছিল। এতক্ষণ অনেক সমালোচনা করলাম। তাহলে এবার কিছু আশার কথা বলি। অনেক উঠতি ভারতীয় তারকাকে আমার নজরে পড়েছে, যারা ভারতকে এশিয়ার এক পরাশক্তি করে তুলতে পারে। তবে দরকার সঠিক পথ প্রদর্শন। কোনির যেমন দরকার ছিল ক্ষিদ্দাকে, এখানেও ঠিক দরকার তেমন কোনো স্বপ্নের ফেরিওয়ালার।





তাহলেই একদিন ফুটবল বিশ্বকাপে বাজবে আমাদের জাতীয় সঙ্গীত, যা আমাদের সবার স্বপ্ন। এছাড়াও দরকার ক্লাব ফুটবলে আরো বিনিয়োগ। কলকাতার এক প্রধান মোহনবাগান ইতিমধ্যেই দক্ষিণ এশিয়ার সবচেয়ে শক্তিশালী ক্লাব। এশিয়ান ক্লাব প্রতিযোগিতায় অনেকেই তাদের "ডার্ক হর্স" বলে চিহ্নিত করেছেন। যদি মোহনবাগান সৌদি, ইরান, জাপান, কোরিয়ার ক্লাবগুলোকে টক্কর দিতে পারে, তাতেও সম্মান বাড়বে ভারতীয় ফুটবলের। ঠিক যেই কাজটা করছে ১৩২ র্যাঙ্ক এ থাকা মালয়েশিয়ার ক্লাব জোহর দারুল তাজিম। জয় হোক ভারতীয় ফুটবলের, বেঁচে থাকুক বাঙালির সেরা খেলা ফুটবল। স্বপ্ন থাকলো, পটলডাঙ্গার অলিগলিতে কান পাতলেই যেন শুনতে পাই টেনিদা আর হাবুলের মধ্যে তর্ক চলছে, মোহনবাগান না ইস্টবেঙ্গল নিয়ে নয়, ব্রাজিল না আর্জেন্টিনা নিয়ে নয়, ভারত ফুটবল বিশ্বকাপের দাবিদার কিনা সেই নিয়ে!



## INKED THOUGHTS

PROSE . POETRY . TRAVELOGUE



### EPHEMERAL ECHOES

THE WIND HUMS SECRETS THROUGH THE TREES. SOFT WHISPERS LOST IN AUTUMN'S BREEZE. GOLDEN LEAVES DRIFT, ONE BY ONE. A FLEETING DANCE WITH SETTING SUN. TIME UNRAVELS. THREAD BY THREAD. MOMENTS LIVED AND WORDS UNSAID. LAUGHTER LINGERS. THEN IT FADES. LIKE TWILIGHT'S GLOW IN DUSKY SHADES. FOOTPRINTS VANISH FROM THE SHORE. WAVES ERASE WHAT CAME BEFORE. YET IN THE HUSH OF MIDNIGHT'S AIR. MEMORIES BLOOM-LIGHT AND RARE. WE CHASE THE PAST, WE GRASP THE NOW, WE DREAM OF FUTURES, BRIGHT SOMEHOW. BUT LIKE THE MIST ON MORNING'S CREST, ALL THINGS FADE, YET LOVE STAYS BLESSED.

Ahana Sen(3rd year)

### THE ECHO OF HUMANITY

WE WERE BORN WITH HANDS THAT COULD BUILD OR BREAK. WITH HEARTS THAT COULD LOVE OR LEARN TO FORSAKE. YET SOMEWHERE BETWEEN THE RUSH OF DAYS. WE BARTERED OUR WARMTH FOR A COLDER GAZE. WE CHASE THE MIRAGE OF A WORLD SO GRAND. MEASURING WORTH BY THE WEIGHT OF SAND. BUT WEALTH IS DUST WHEN THE SOUL RUNS DRY. AND POWER FADES LIKE A FLEETING SKY. WHAT IS IT TO BE HUMAN, ASK? A MIND THAT THINKS, A FACE IN A MASK? OR IS IT THE WHISPER THAT LINGERS NEAR. THE VOICE THAT TREMBLES BETWEEN LOVE AND FEAR? WE LOST OURSELVES IN THE GLOW OF SCREENS, IN CRAFTED SMILES AND SHATTERED DREAMS. FORGOTTEN LAUGHTER, ABANDONED GRACE, A WORLD SO FAST, YET NONE EMBRACE. BUT CLOSE YOUR EYES—CAN YOU STILL FEEL? THE PULSE OF KINDNESS, STRONG AND REAL? THE GENTLE TOUCH, THE HEARTFELT VOW. THE LIGHT WE BURIED, BUT CAN FIND SOMEHOW? THE SEARCH IS NOT IN THE HANDS OF FATE. NOR IN THE TICKING CLOCK WE CREATE. LOVE, PEACE, AND JOY ARE NOT FAR NOR FEW-THEY LIVE IN ME, THEY LIVE IN YOU. SO LET US PAUSE, LET US MEND. BE MORE THAN SHADOWS THAT TWIST AND BEND. FOR TO BE HUMAN IS NOT TO REIGN. BUT TO LOVE, TO HEAL, AND FEEL AGAIN.

> Raima Das (3rd year)

fading

vicies lacus sed turpis tincidunt vassa ultricies mi quis. Mag accilus. Eget sit amet vitae et leo du aculis eu non d Cursus sit a

euismod lacinia at quis. Ut tellus

ullamcorpe semper f

That day, I found myself untouched on my desk, within the pages of my diary, slowly blending into the lines.

That day, I wished I could be chased, like people chase dreams,

like a nomad chases a mirage in a desolate desert.

That day, I wished for hands that would reach out for me.

I longed to be pursued
by someone who could see beyond,
past the ink smudges and hidden sighs,
past the smile I wear.
That day, I wished to be seen
in a world moving too fast to notice,
and I thought someone would find me
within the quiet cracks in the corners of my pages.
That day, I kept longing to be more,
yet perfectly—
perfectly fading.

diam in. Mi ipsum
sodales neque sodales
vitae semper quis. In dic.
lorem sed risus ultricies to
unt nunc pulvinar sapien et.
lorem dolor. Vel fringilla est ullan.

tis. L

Taniya Banerjee(4th year)

## প্রেমে অভিমান

চেয়ে থাকে তোমাতে মোর মণিকোঠার আবেগ, নয়কো হে বিরহ, মনে জাগরণ সাধারণ উদ্বেগ.. একটু মজার ছলে হাসি, উৎফুল্লতা হোক মনে, কখনও কণ্ঠে আনবেনা যেন 'আসি'।

> মজার ছলে বলি সবই, এত সহজে কি চিনবে আজই! সময়কে নাও সঙ্গের সাথী বানিয়ে, আমাকে রেখো কাছে, নিও একটু মানিয়ে।

যখন রাখতে পারলাম না সাধারণ কথায়, তাইতো তোমাকে ভুলিয়ে রাখার চেষ্টায় মোর একান্ত স্নেহের কবিতায়। মনের আঙিনা থাকে সংকুচিত, কাছের হলে তবেই তো করব তা উমোচিত।

যদি নাই বা কমে অভিমান এতে, তত্তই লিখবো কবিতা তোমাকে, মোর মনের আঙিনা খোলা তোমাতে.. রাখবনা কিছুই লুকিয়ে, হগঁ! আমি বলবো শুধু তোমার দৃষ্টিতে তাকিয়ে..

> মোদের জালোবাসার হোক জয়, আমি তোমাতে থাকবো হয়ে নির্জয়, আরো তো হবে জানতে, থাকতে হবে কাছে, অনেক উপলব্ধি হবে তাতে।

পরম মায়াজালে আমাকে বন্ধি করেছো যে গুমি! কিঙাবে বোঝায় আমি! ভাবুক প্রাণে চেয়ে থাকি তোমার রূপের মায়াবিকতায়, উপলব্ধি হোক তোমাতে, এই জন্যেই আমি আছি তাই। জানো কি প্রিয়ত্যা। আজাসে বলে কথা..
এজাবেই কাছের হয়, দূরে তো কেউ অন্যথা।
যাক সফল মোর হৃদয় ধ্রনি,
কিজাবে মানাতে হবে তোমাকে, আমি তো সেটা স্বচ্ছজাবে জানি।
তোমার মতকে করি সম্মান,
কি গো হে প্রিয়ত্যা। আর নেই তো মনে অভিমান?
এইতো তোমার মুখে কোমল হাসির সৃষ্টি..

আহা! কি অদূর্ব! লাগছে গো এবার তোমাকে খুবই মিষ্টি।।

– শুভজিৎ পাল (3rd Year)

## Love, Like the Ocean

LOVE IS THE OCEAN, VAST AND WIDE, WITH TIDES THAT PULL. WITH WAVES THAT GLIDE. IT WHISPERS SOFT ALONG THE SHORE. YET ROARS WITH PASSION AT ITS CORE. IT STARTS AS RAIN, A DROP SO SMALL, A TENDER GLANCE, A FATED CALL. A SINGLE SPARK, A FLEETING CHANCE, THAT BLOOMS INTO A DEEP ROMANCE. LIKE RIVERS CARVE THE STUBBORN STONE, LOVE SHAPES THE HEART WE'VE ALWAYS KNOWN. IT SMOOTHS THE EDGES, MENDS THE SEAMS, AND FILLS THE NIGHT WITH GOLDEN DREAMS. THROUGH GENTLE TIDES AND TEMPESTS HIGH, LOVE LEARNS TO BEND, BUT NOT TO DIE. IT BRAVES THE STORMS, IT FIGHTS, IT MENDS, AND IN THE WRECKAGE, STILL TRANSCENDS. IT WRITES IN STARDUST ON THE SKY, A SILENT VOW, A SOFT REPLY. NOT BOUND BY TIME, NOR LOCKED BY CHAINS, IT SOARS THROUGH JOY, ENDURES THROUGH PAINS. FOR LOVE IS MORE THAN FLEETING BREATH, MORE THAN THE VOWS WE PLEDGE 'TIL DEATH. IT LINGERS PAST THE FINAL PAGE, IT ECHOES PAST THE WORLD AND AGE. SO TAKE MY HAND, AND LET US ROAM, THROUGH ENDLESS SEAS, THROUGH SKIES UNKNOWN. FOR LOVE'S NOT LOST, NOR TORN APART, WHEN IT RESIDES WITHIN THE HEART.

> - Aman Prasad Chourasia (3rd year)

## Gone are those days !

Yeah, u felt that right! You but time will FADE FAR from your sight You Will break free from CAGE By shining bright Like your divine LIGHT Thus, Gone are the days of your FAILURE Gone are the chains of **EGO** Gone the memories of your SINS Now, welcome The New YOU The Righteous YOU The Divine YOU Cause yours is the World now So is it's **PEOPLE** 

> - Moyinaak Dutta (1st year)



অতীতের সুরে গল্প গাঁথা বিষাদের সুরে শূন্য খাতা তবু ও কি আজ পারি ভুলতে অতীতের সেই গল্প কথা

বৃষ্টির সুরে অল্প ছোঁয়া মায়ার সুরে জড়িয়ে ধরা সাগরের জলে দু চোখ ধুয়ে টানলো সে এক দমকা হাওয়া

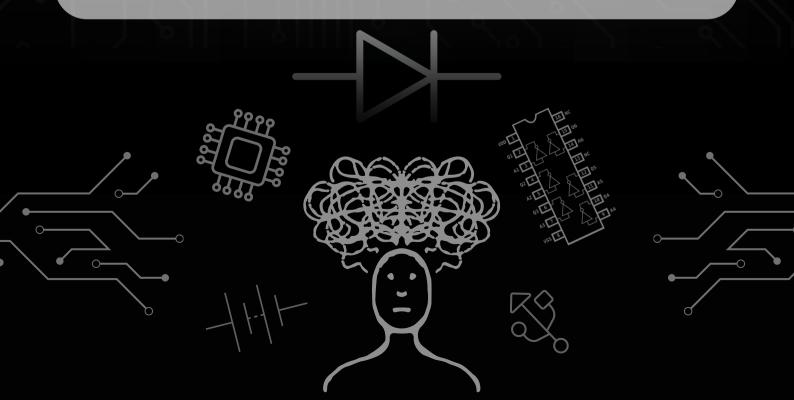
> - Srimoyee Basu (3rd year)

## My Struggle with Electronics!

What I am writing today is completely my own perspective and if you disagree, do share your thoughts! I was pretty callous and ignorant (some would say still now) during my high school days and I pretty non-chalantly chose electronics because I did not care much. After college began, I had this great friend with whom I would have discussions over different topics and slowly I began expanding my views towards other fields. From having the narrow view of business and engineering and politics being the only good subjects and everything else being bogus, I discovered how deep all the fields were, especially basic sciences, humanities, philosophy, literature and that no field was greater than the other. I particularly developed a love for math and physics. But then came 2nd year. All physics and maths courses ceased and core subjects began. I was disappointed where I was heading since I was going away from those pure sciences and into practical stuff which I did not care a bit about. It being too late and risky to try to switch to basic honours degree, I thought it would be a good idea to find my love in electronics since there was a lot of physics involved and a lot of challenging problems to be solved which I enjoyed. Then 2nd year ended and as 3rd year began, I started reading a lot of stuff non-related to my course and found a special interest in them. After that, till today I could never sit down to read electronics again. In the back of my mind, I knew there are so many interesting things out there worth spending the time on. I started preparing for GATE but then Durga Puja came and I laid back and began doing my own stuff until I realised it was too late to give GATE.

So time passed and on the exam morning, I took out my old copies, rubbed off the dust, and took a glance at the notebook and gave the exam. I did well better than what I expected during my not so productive prep days. Now I'll tell you what I hate about ECE. It is joga khichudi. It is a very inter disciplinary field. So much so that you don't really learn any of those fields well. Solid state physics, electromagnetics, quantum mechanics, and the list goes on as per your specialization. While other engineering fields are very dynamic, I feel like the main specialization that students pursue in ECE like VLSI and stuff is pretty lifeless. It has no human element. You are given for example, specifications for a filter, now design it. You won't know where and how it will be applied if it does even. After exploring different things I have developed a thing for nature and human beings and if my job doesn't entail that, I can't do that for long. Please share if you have a different perspective and perhaps enlighten me with philosophy or why you like ECE or your reason for pursuit in that. It would help a lot, thanks!

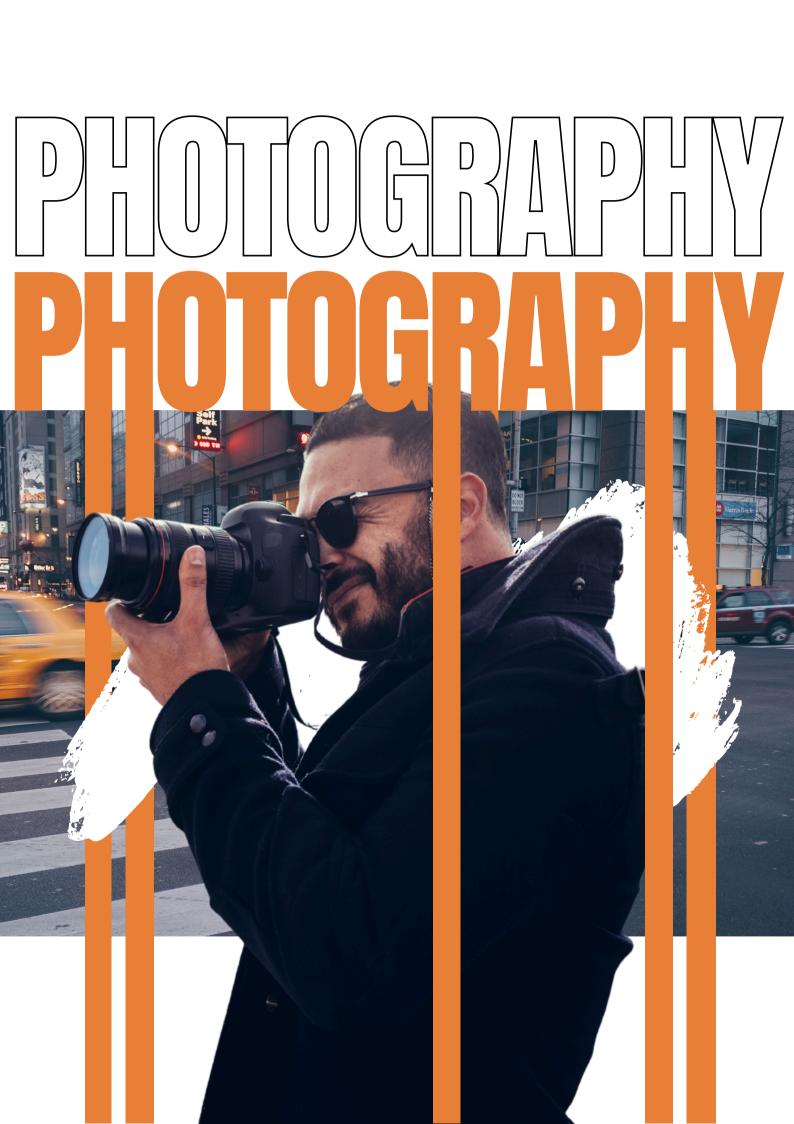
- Aditya Mohan Saha (3rd year)



# FRAME I



PHOTOGRAPHY . FINE ARTS





Bishal Das Gupta (2nd Year)



Soumya Adhikari (1st Year)



Sudipta Kumar Nayak (1st Year)



Purbita Mitra (3rd Year)



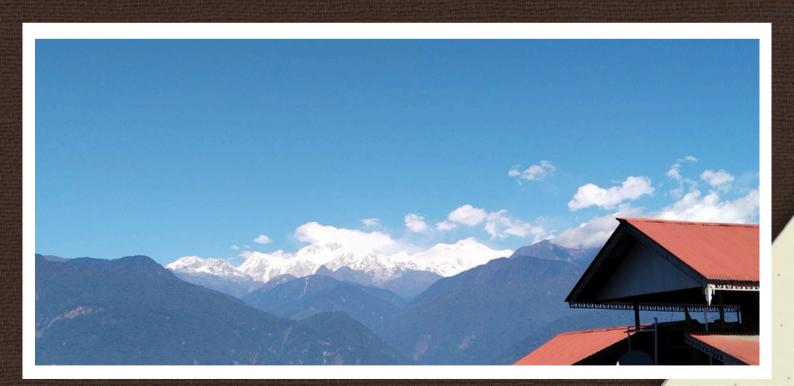
Hemant Kumar Ayush (2nd Year)



Somsubhra Manna (4th Year)



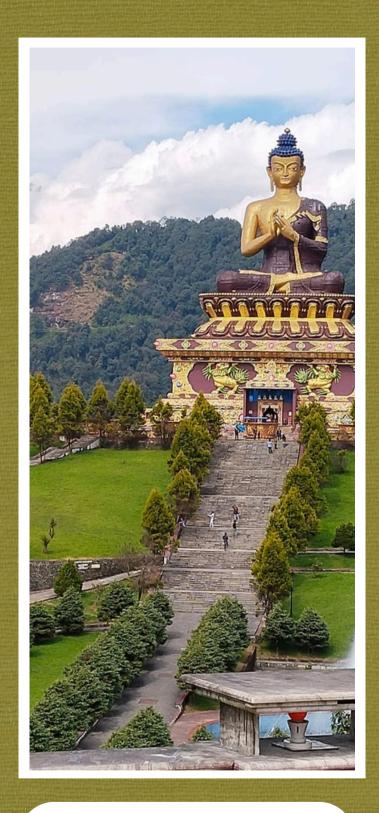
Shivangshu Singh (2nd Year)



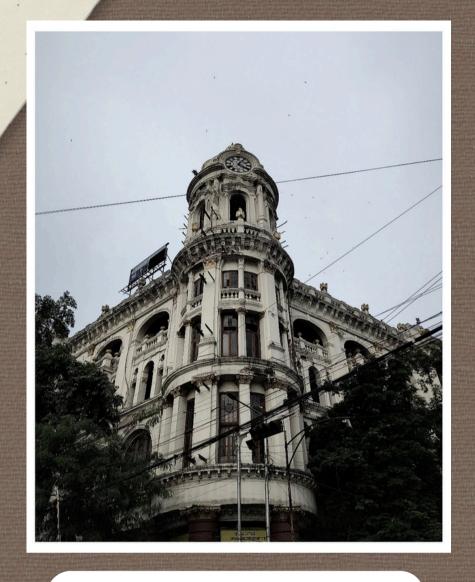
Somsubhra Manna (4th Year)



Atreyi Bhattacharjee (2nd Year)



Shivangshu Singh (2nd Year)



Hemant Kumar Ayush (2nd Year)



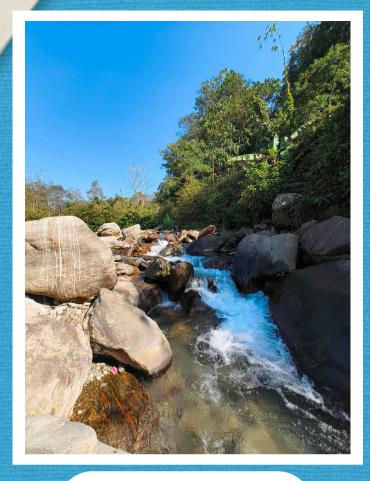
Pushan Basu (2nd Year)



Pushan Basu (2nd Year)



Rounak Chowdhury (1st Year)



Rittika Basak (2nd Year)



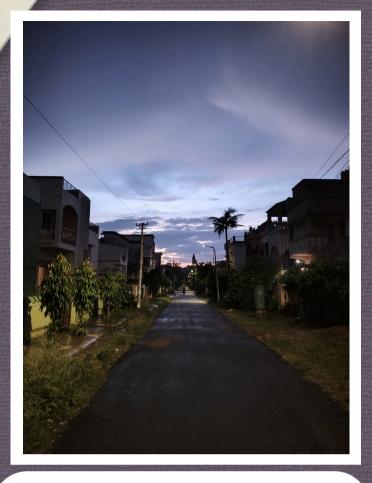
Soumyadeep Das Mandal (1st Year)



Moyinaak Dutta (1st Year)



Sagnik Dutta (2nd Year)



Prama Bhattacharyya (3rd Year)



Sinchan Mitra (1st Year)



Swarnadeep Chatterjee (2nd Year)



Soumya Adhikari (1st Year)



Bishal Das Gupta (2nd Year)



Susmit Khanrah (1st Year)



Sayan Karmakar (3rd Year)



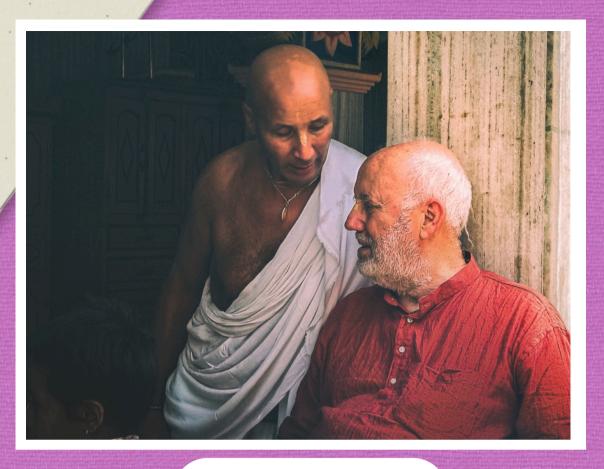
Somdutta Manna (4th Year)



Suparna Banerjee (2nd Year)



Susmit Khanrah (1st Year)



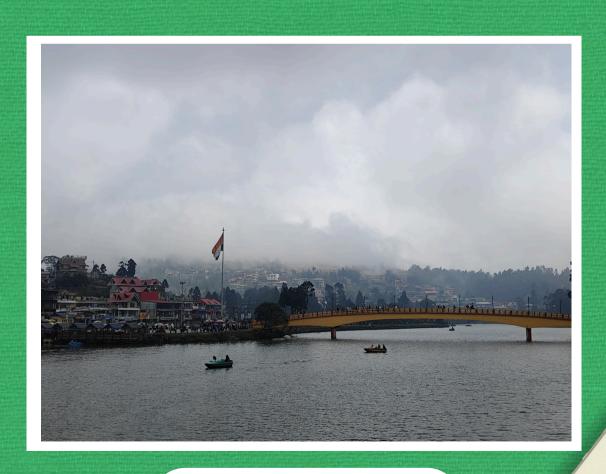
Sudipta Nayak (1st Year)



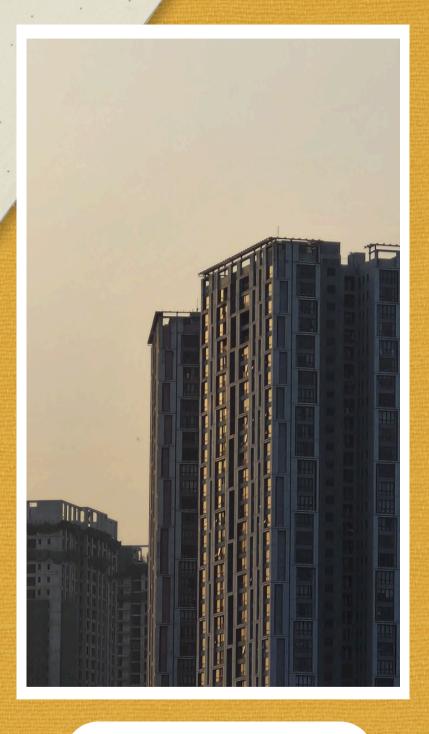
Prama Bhattacharyya (3rd Year)



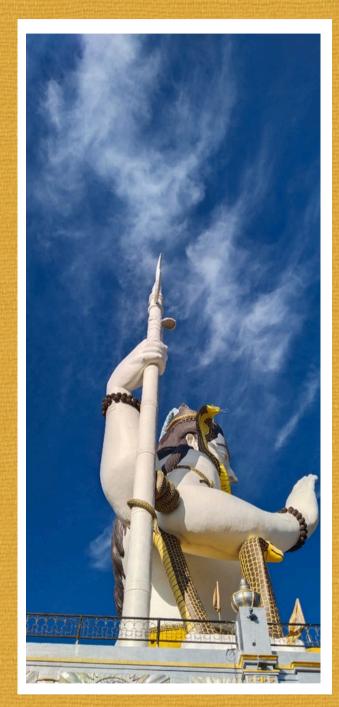
Sayan Karmakar (3rd Year)



Shivangshu Singh (2nd Year)



Debmalya Paul (2nd Year)



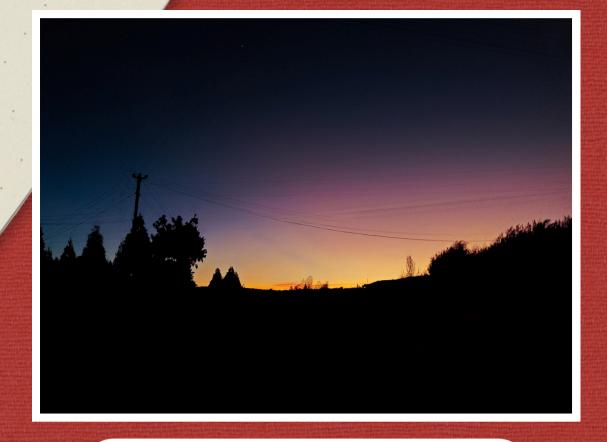
Somdutta Manna (4th Year)



Akash Kumar (1st Year)



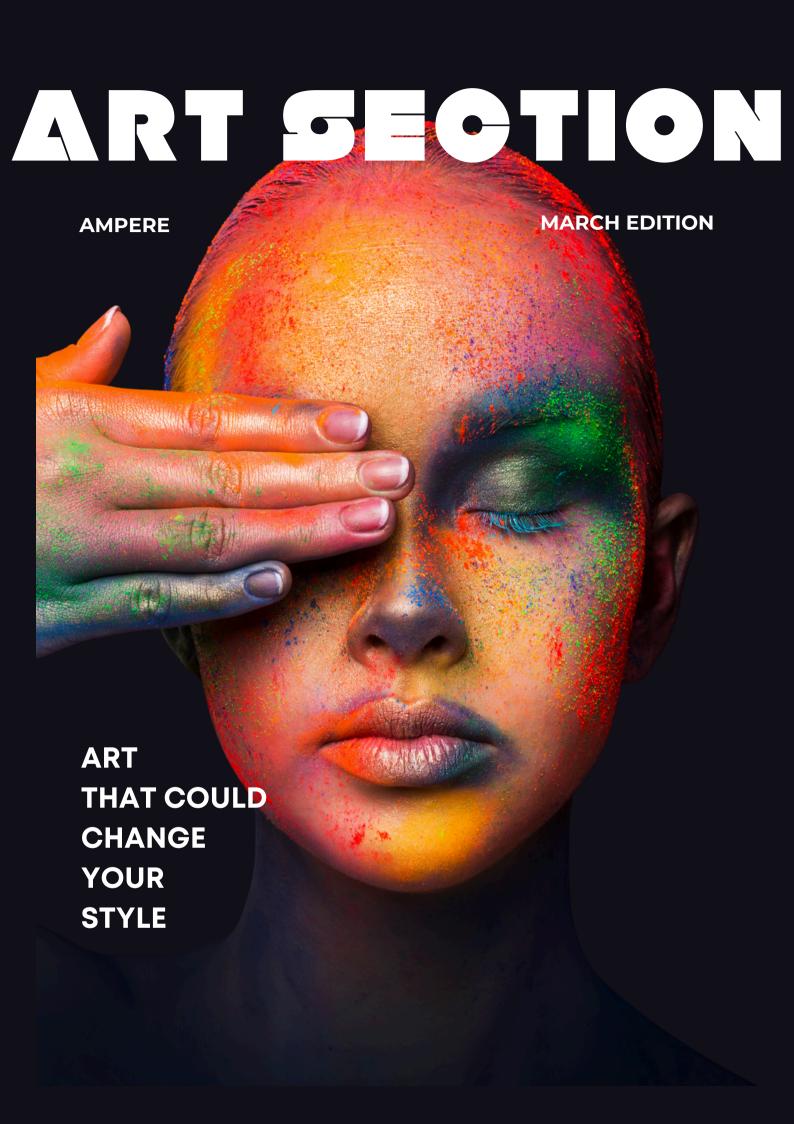
Priyanshu Guha Thakurta (3rd Year)



Priyanshu Guha Thakurta (3rd Year)



Akash Kumar (1st Year)

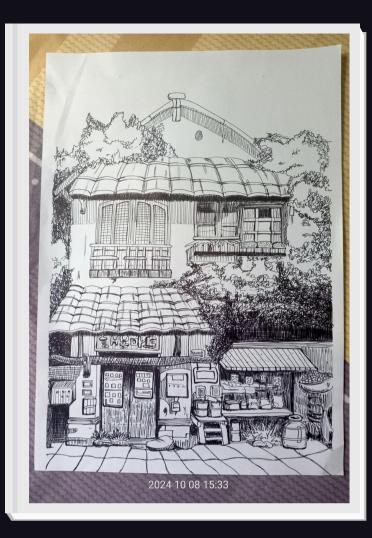




Aaryan Raj (1st Year)

Indrayudh Das (2nd Year)





Basundhara Hazra (3rd Year)

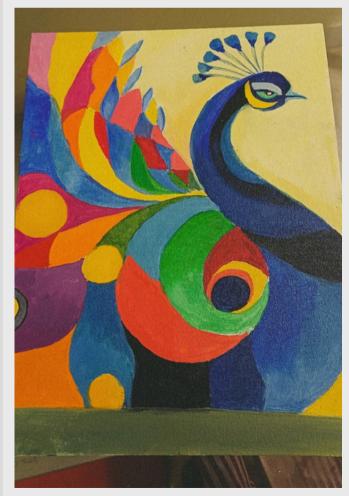
Debolina Banerjee (2nd Year)





Indrayudh Das (2nd Year)

Kritika Kumari (1st Year)





Aaryan Raj (1st Year)

Indrayudh Das (2nd Year)

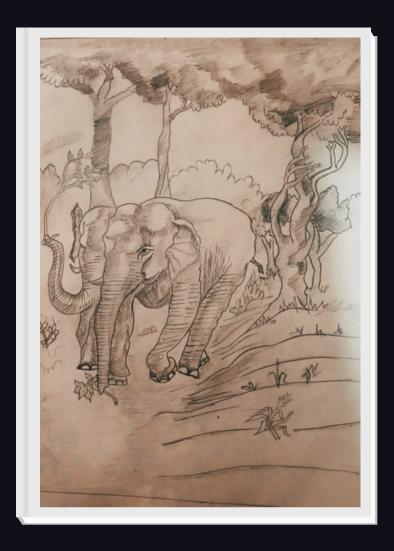




Roopkatha ghosh (1st Year)

Sudipta Kumar Nayak (1st Year)





Debolina Banerjee (2nd Year)

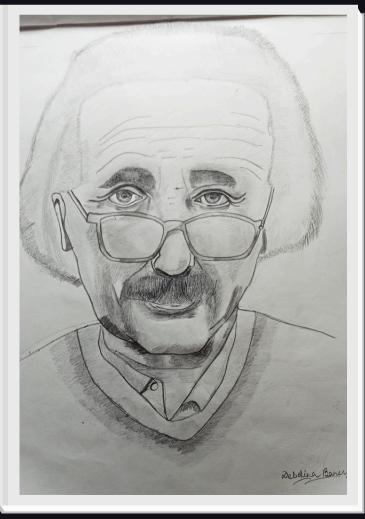
Roopkatha ghosh (1st Year)





Bishal Das Gupta (2nd Year)

Debolina Banerjee (2nd Year)





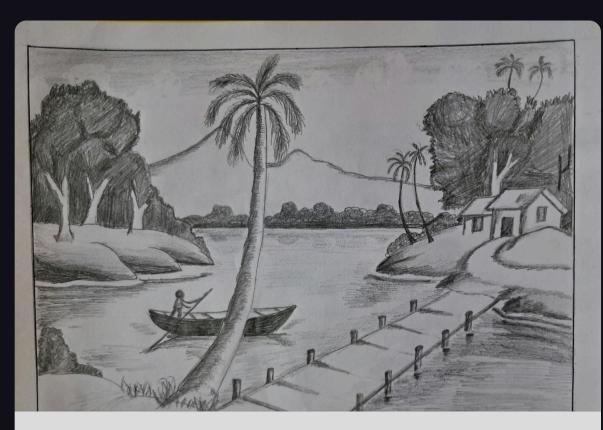
Debolina Banerjee (2nd Year)



Srija Mukhopadhyay (1st Year)



Arghadip Chowdhury (2nd Year)



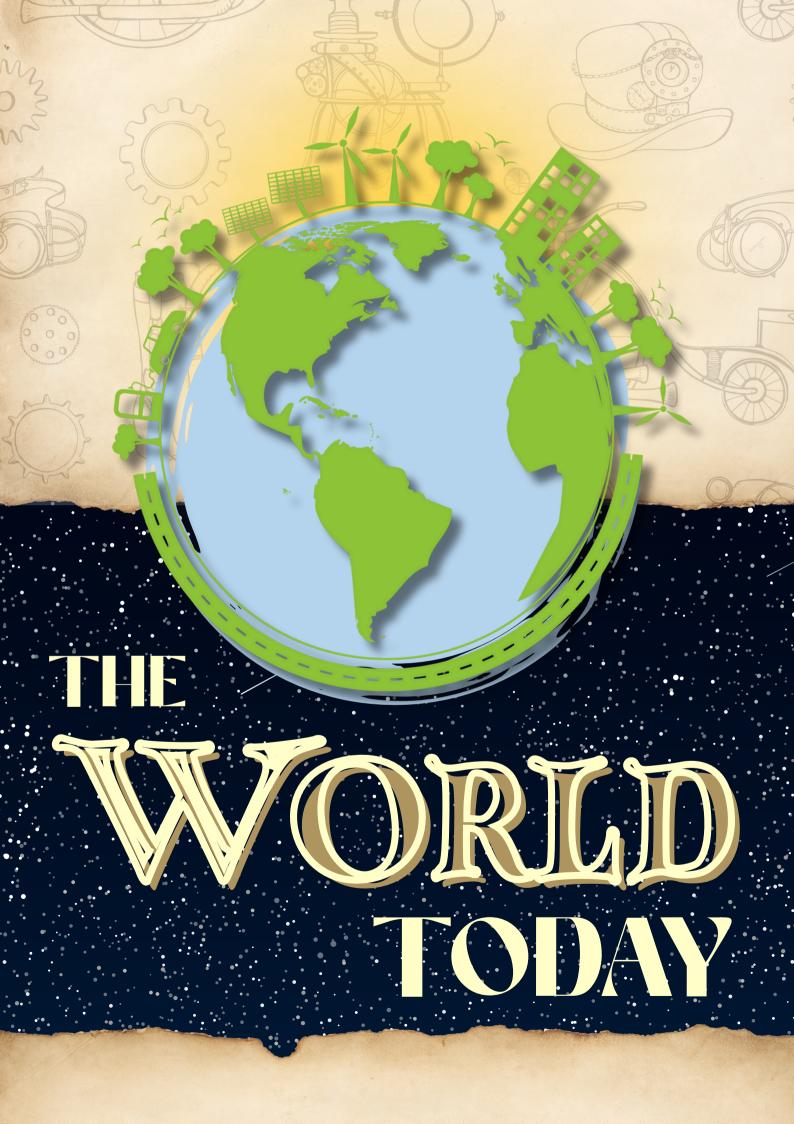
Akash Saha (2nd Year)



Sandipan Bairi (4th Year)



Aaryan Raj (1st Year)



# NASA's Blue Ghost Mission 1: A Milestone in Lunar Exploration

NASA's lunar exploration efforts have taken a significant leap forward with the successful landing of Blue Ghost Mission 1, a spacecraft developed by Firefly Aerospace. The mission, which landed in the Mare Crisium region of the Moon, marks a major achievement under NASA's Commercial Lunar Payload Services (CLPS) program. This initiative aims to enhance scientific research on the Moon by partnering with private companies for lunar deliveries.

### Objectives of the Mission

The primary goal of Blue Ghost Mission 1 is to study the lunar regolith—the loose layer of dust and broken rock covering the Moon's surface. The instruments onboard will analyze how the solar wind, a continuous stream of charged particles from the Sun, interacts with the lunar soil and the Earth's magnetic field. These studies are crucial for understanding space weather conditions and their effects on future lunar missions, especially those under NASA's Artemis program, which aims to establish a sustainable human presence on the Moon.

### Technological Innovations

Firefly Aerospace, a Texas-based company, designed and built the Blue Ghost lander to transport scientific payloads efficiently. The spacecraft is equipped with:

- Advanced sensors and spectrometers to study the Moon's surface composition.
- Communication and navigation systems for precise landing and data transmission.
- Radiation measurement instruments to assess the impact of space radiation on lunar operations.

This mission is also testing new technologies that could support future lunar resource utilization, such as mining for water ice—a key element for sustainable space exploration.



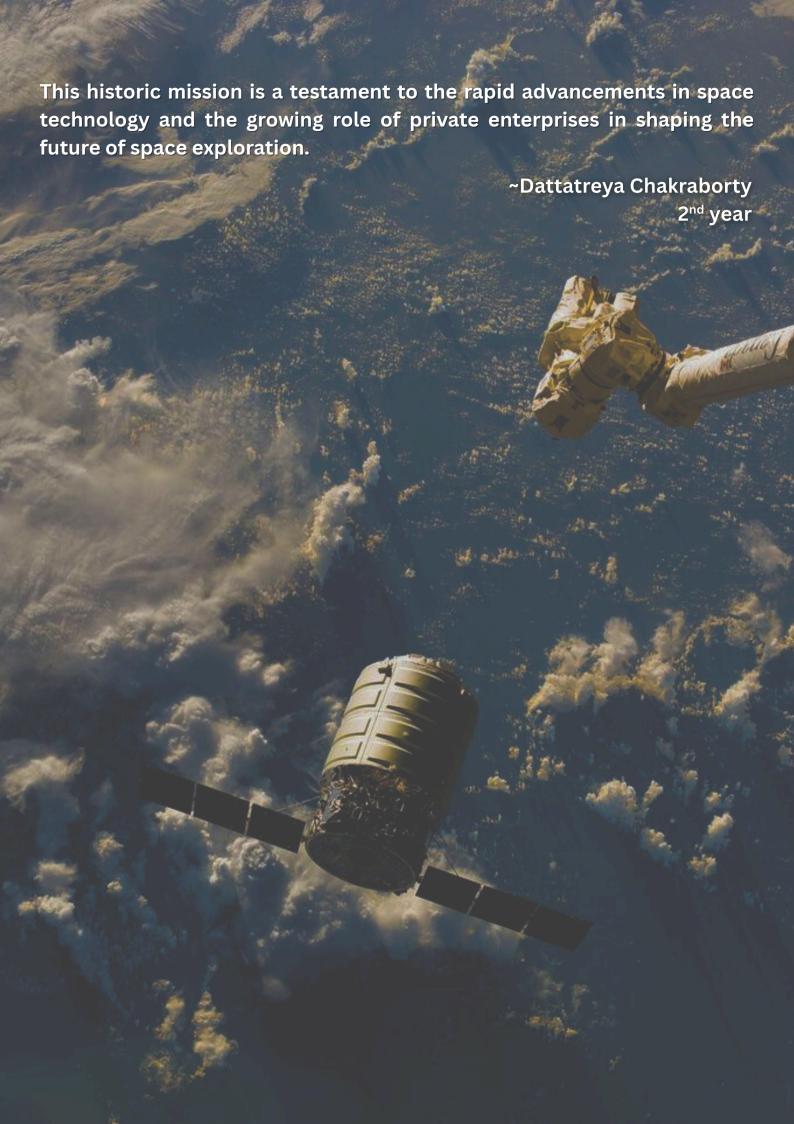
## Significance for Future Space Missions

The success of Blue Ghost Mission 1 is a major step toward commercial lunar transport services. It demonstrates how private space companies can contribute to NASA's broader lunar strategy, reducing costs and

accelerating mission timelines. The findings from this mission will also aid the upcoming Artemis III mission, which aims to return astronauts to the Moon. Additionally, by studying the interactions between the solar wind and lunar regolith, scientists can improve our understanding of how radiation affects lunar dust, which is a critical factor in designing habitats and protective spacesuits for astronauts.

### The Future of Lunar Exploration

NASA and Firefly Aerospace are already planning Blue Ghost Mission 2, which is expected to carry additional payloads to further explore the Moon's surface. Meanwhile, other CLPS partners, such as Astrobotic and Intuitive Machines, are also preparing their own lunar landers for future missions. With this successful landing, NASA has reaffirmed its commitment to public-private collaboration in space exploration. The insights gained from Blue Ghost Mission 1 will not only contribute to the Artemis program but also pave the way for future lunar colonies and deep-space missions, including a potential journey to Mars.



### The World Today: A Landscape of Challenges and Transformations

The world today is a paradox of immense progress and profound challenges. As we navigate the complexities of the 21st century, rapid technological advancements, geopolitical shifts, climate crises, and social transformations shape our global reality. The interconnectedness of nations has never been more apparent, yet divisions remain stark. In this ever-changing landscape, we find both reasons for optimism and causes for concern.

### Technology: A Double-Edged Sword

Innovation continues to revolutionize industries, from artificial intelligence to biotechnology. The rise of AI and automation has reshaped the job market, creating opportunities while displacing traditional roles. Breakthroughs in medicine and space exploration remind us of humanity's boundless potential. Yet, concerns over digital privacy, cyber warfare, and the ethical implications of AI loom large. As technology races ahead, society must establish safeguards to ensure its benefits are equitably distributed.



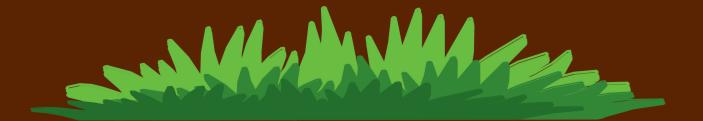


### **Geopolitical Shifts and Global Uncertainty**

International relations are marked by volatility. The balance of power is shifting as emerging economies challenge long-standing superpowers. Conflicts, trade disputes, and ideological divides continue to test diplomatic relations. Meanwhile, organizations like the United Nations struggle to maintain global cooperation in an era of nationalism and protectionism. The future of international stability hinges on diplomacy, dialogue, and mutual respect among nations.

### Climate Change: An Urgent Call to Action

Few challenges are as pressing as climate change. Rising global temperatures, extreme weather events, and environmental degradation demand immediate attention. While many nations pledge carbon neutrality and invest in renewable energy, progress remains inconsistent. The global community must accelerate efforts to combat climate change through innovation, policy reform, and collective responsibility to preserve the planet for future generations.



### Social Movements and Cultural Shifts

Societal values are evolving, fueled by movements advocating for gender equality, racial justice, and human rights. The digital age amplifies voices that were once marginalized, fostering awareness and demanding accountability. However,

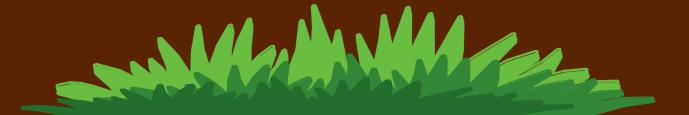
the same platforms that empower change also contribute to misinformation and division. Striking a balance between free expression and responsible discourse remains a crucial challenge for modern society.

#### **The Road Ahead**

Despite uncertainties, the resilience of humanity is undeniable. The challenges we face are daunting, yet history has shown our ability to adapt and progress. By fostering global cooperation, embracing ethical innovation, and prioritizing sustainability, we can navigate the complexities of today's world and build a brighter future.

The world today is not just a story of conflict and crisis—it is also a testament to our potential for change. How we choose to respond will shape the course of history for generations to come

~Ahana Sen 3<sup>rd</sup> year



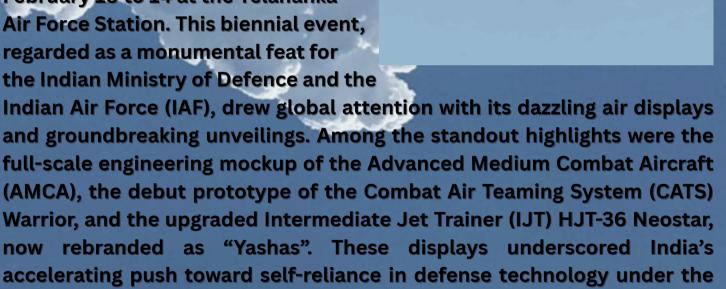
# The World Today: Aero India 2025 Showcases India's Aerospace Ambitions

Atmanirbhar Bharat initiative, signaling its intent to join the elite club of

nations wielding advanced aerospace capabilities.

### February 22, 2025

The skies above Bengaluru, India, roaring with innovation and ambition earlier this month as Aero India 2025, Asia's premier aerospace and defense exhibition, unfolded from February 10 to 14 at the Yelahanka Air Force Station. This biennial event, regarded as a monumental feat for the Indian Ministry of Defence and the



### **AMCA: India's Fifth-Generation Leap**

The star of the show was undoubtedly the Advanced Medium Combat Aircraft (AMCA), India's indigenous fifth-generation stealth fighter jet, showcased as a full-scale engineering mockup for the first time. Designed

by the Aeronautical
Development Agency (ADA)
under the Defence Research
and Development Organisation
(DRDO), the AMCA
represents a bold leap in
India's aerospace engineering.



This twin-engine, multi-role stealth platform is engineered for a low radar cross-section, supercruise capability, and a suite of cutting-edge technologies, including AI-powered electronic pilot systems, net-centric warfare capabilities, and an internal weapons bay.

### **CATS Warrior: The Loyal Wingman Takes Flight**



Complementing the AMCA was the Combat Air Teaming System (CATS) Warrior, a full-scale prototype of an unmanned combat aerial vehicle (UCAV) designed to redefine unmanned aviation.

Developed by HAL, the CATS Warrior is envisioned as a "loyal wingman" to manned fighters like the LCA Tejas, enhancing operational capabilities with precision strikes, autonomy, and Al-driven mission support. Its sleek, hybrid design—featuring a serpentine air intake and twin engines—echoes elements of advanced UCAVs like the MQ-28 Ghost Bat and XQ-58 Valkyrie.

1st year



### Ritabrata Majumdar ECE A ,1st Year

Achievement: 1st Place - Extravaganza Event, NSSC 2024, IIT Kharagpur

Team Members: Ritabrata Majumdar (ECE) Aritra Mukherjee (AIML) Triparna Misra (BT)

Our team showcased exceptional skills and teamwork, securing the 1st position in the prestigious Extravaganza event at the National Students' Space Challenge (NSSC) 2024, hosted by IIT Kharagpur. Competing against top talents, we demonstrated creativity, problem-solving, and technical excellence, making this a proud achievement for us.





Debolina Banerjee ECE C ,2nd Year

- 1. Tech knights event 19th December, 2024; participants from Section B & C
- 2. Industry Readiness Workshop on VLSI Microchip Design and Methodology, July 2024; Team members are from Ece Section C







### Hemant Kumar Ayush ECE B, 2nd Year

27th Dec,2024- I secured the 1st position in Jharkhand State Young leaders dialogue.

9-12th Jan,2025- I got selected in National youth festival 2025, in Viksit Bharat Young leaders dialogue 2025, by the Youth & sports ministry of India, i got the opportunity to represent my state Jharkhand in National level Competition i.e Viksit Bharat Young leader dialogue on the topic "Building the infrastructure for the future" at Bharat Mandapam, New Delhi.







Bronze in 18 + Male Kata in the Federation Cup - 2024 which was held in Benaras Hindu University (BHU) on 28 th and 29 th December, 2024.







## SENIOR EDITORIAL





PRIYANSHU GUHA THAKURTA



AHONA DUTTA



ARIJIT MUKHERJEE



ADITYA KUMAR SHAW



UPAMA ROY



SHUVAM SAMANTA

# JUNIOR EDITORIAL





DEBMALYA PAUL



DIPANJAN PAUL



PRANTIK KUNDU



AISHI MUKHOPADHAY

## SENIOR OUTWAVE





ANKITA GHOSH



AYUSH RAJ



PRASHAREET CHOUDHURY





SAMPRITI MITRA



SAYANDEEP BISWAS



SHREYA

## JUNIOR OUTWAVE





ANIRBAN CHANDRA



SANJANA GANGULY



BISHAL DAS GUPTA



RISHAV NAG



SUPARNA BANERJEE



SHIVANGSHU SINGH





SEND YOUR FEEDBACK: HERE

