



**VIDYAVARDHINI'S COLLEGE OF
ENGINEERING AND TECHNOLOGY**
K.T. MARG, VASAI (W), PALGHAR-401202

**Department of Information Technology
Presents**



**LOGIN
TO
EXPLORE**



2025 | 16TH EDITION

VISION & MISSION

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VISION

To foster and maintain excellence by orienting the captivating minds of the aspiring engineers towards IT- driven technological solutions for the benefits of the society.

”

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MISSION

- To provide quality education, by employing best and diversified teaching practices and tools, and teaching beyond the confines of the university syllabus.
- To keep students abreast with latest technological advancements in the market.
- To prepare students to troubleshoot and solve IT system problems.

”



**VIDYAVARDHINI'S COLLEGE OF
ENGINEERING AND TECHNOLOGY**

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From HOD's Desk

It gives me abundant joy to present this issue of the Information Technology Departmental Magazine titled “LOGIN... To Explore”. This magazine serves as a platform to highlight the technological advancements, creativity, and achievements of our students and faculty. It reflects our commitment to fostering an environment that encourages innovation, research, and excellence in the field of Information Technology.

The IT landscape is evolving rapidly, with emerging technologies like Artificial Intelligence, Machine Learning, Cybersecurity, and Cloud Computing shaping the future. As educators, our mission is to equip students with the skills, knowledge, and mindset required to thrive in this ever-changing digital world. I am proud to witness the dedication and enthusiasm of our students, who continuously strive to push the boundaries of technology and innovation.

This magazine not only showcases technical articles and research contributions but also celebrates the achievements of our top-performing students and faculty. Additionally, the Newsletter provides valuable insights into recent advancements and industry trends that are shaping the global IT ecosystem.

I hope this magazine invigorates and inspires students and faculty members alike to put their best foot forward in elevating the name of our department and institute through their academic and co-curricular efforts. I sincerely hope this edition induces an encouraging reaction from all its readers.

I take this opportunity to congratulate the entire publication team for their hard work and dedication in bringing out this edition successfully.

Let's continue to learn, innovate, and grow together!

Dr. Thaksen Parvat
Head of Department, Information Technology (VCET)



From Staff-Incharge's Desk

I am pleased to present the 16th Edition of our IT department's magazine, "LOGIN.. To Explore", a platform that celebrates innovation, creativity, and the ever-evolving world of technology. In today's digital era, technology is more than just a tool—it is a transformative force shaping industries, societies, and the way we interact with the world.

This year, our I-TECH committee focuses on the dynamic landscape of technology and its profound impact on society. This magazine stands as a testament to the dedication of our IT students and faculty, who are making remarkable contributions to groundbreaking advancements. Inside, you will find insightful articles and cutting-edge trends that define the future of technology.

In addition to showcasing exceptional student and faculty achievements, this edition highlights our top rankers and provides a comprehensive Newsletter offering valuable insights into recent developments in the IT industry worldwide.

On behalf of the I-TECH committee, I extend my sincere gratitude to our Beloved Principal, Dr. Rakesh Himte, for his unwavering support, and our HOD, Dr. Thaksen Parvat, for his invaluable guidance.

A special thanks to our dedicated team of Designers, Editors, PRs, and the entire I-TECH Committee, who have poured their passion and hard work into making this magazine a reality.

We are confident that you will enjoy the technological extravaganza this magazine holds.

Happy Reading!

Ms. Jessica Falcao
Staff-In Charge, I-TECH Committee



From Chairperson's Desk

It is with great enthusiasm that I present the 16th edition of our IT department's magazine, "LOGIN... To Explore". This publication reflects the ever-changing world of technology and its deep influence on society. This year, the I-TECH committee aims to empower students with insights into the rapid advancements in technology and their impact on the future.

This edition brings forth the latest research and innovations in Information Technology, highlighting its role in transforming industries and driving groundbreaking progress. Additionally, it serves as a platform to recognize the outstanding accomplishments of our students and faculty, celebrating their excellence both within and beyond academics.

I extend my heartfelt gratitude to our Head of Department, Dr. Thaksen Parvat, and our dedicated staff in-charge, Ms. Jessica Falcao, for their constant support and encouragement. A special appreciation goes to our committed team for their relentless efforts in curating this edition, making it a true reflection of our passion for technology and progress.

The I-TECH committee continues its mission to educate, inspire, and push the boundaries of technological exploration, aiming to surpass previous milestones with each new edition.

Bharat Choudhary
Chairperson, I-TECH Committee

LOGIN TO EXPLORE

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Bias in Machine Learning Systems

Machine learning has become a powerful tool in shaping decisions across industries, from hiring employees to recommending healthcare treatments. However, it's not perfect. One of the biggest challenges it faces is bias—when these systems unfairly favor or disadvantage certain groups of people. While machine learning is often seen as objective and impartial, it can unknowingly inherit the prejudices of the world around us. Let's explore what causes this bias, why it matters, and how we can fix it.

Bias in machine learning often starts with the data. These systems learn by analyzing historical data, but if that data reflects unfair patterns—like fewer women being hired in tech jobs or certain neighborhoods being over-policed—the system will continue to make decisions based on those patterns.

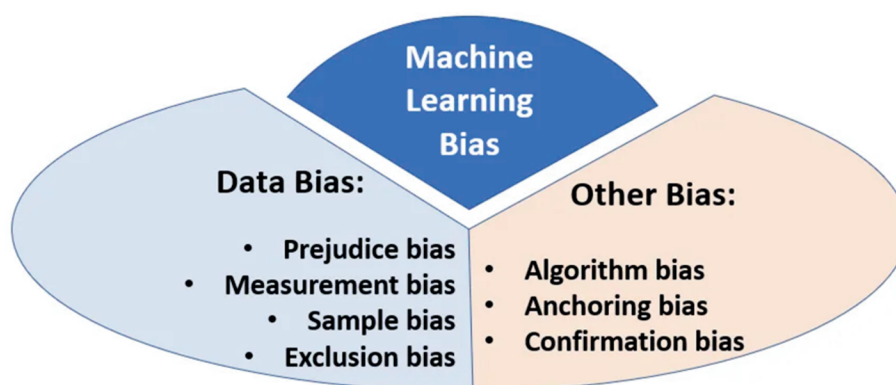


Fig. ML Bias

The impact of bias can be serious. It can lead to discrimination, where certain groups—like women, minorities, or people with disabilities—are treated unfairly in areas such as job applications, healthcare access, or criminal justice. It can also create legal troubles for companies that rely on biased systems, exposing them to lawsuits and public backlash. Even worse, biased systems can reinforce existing inequalities. For instance, if a system predicts higher crime rates in certain neighborhoods and police focus their efforts there, it creates a feedback loop where those areas are over-policed and the bias grows stronger.

Thankfully, there are ways to tackle bias in machine learning. First, we need better data—data that is diverse and represents all types of people fairly. Regularly checking and cleaning this data can help spot and remove any unfair patterns. Second, developers can tweak algorithms to make them more fair by adding rules that prevent discrimination or using techniques designed to reduce bias. Third, transparency is key. When machine learning systems are easier to understand and explain, it's easier for people to identify and fix problems.

In the end, bias in machine learning isn't just a technical issue—it's a human one. These systems reflect the world we live in, including its flaws. By being mindful of how we build and use these tools, we can ensure they work for everyone fairly and responsibly. Fixing bias isn't just about improving technology; it's about creating a more equitable future for all of us.

-By Farhan Inamdar
T.E

Understanding Progressive Web Apps (PWAs)

Progressive Web Apps (PWAs) represent a significant evolution in web technology, blending the best features of websites and mobile applications to create a seamless user experience. Unlike traditional web apps, PWAs are designed to work offline, load quickly, and provide a native app-like experience directly in the browser. They leverage modern web capabilities such as service workers, which enable background processes that allow for offline functionality and push notifications. This means users can engage with a PWA even without an internet connection, making them particularly valuable in areas with unreliable connectivity.

One of the standout benefits of PWAs is their ability to be installed on a user's device without going through an app store. Users can simply add a PWA to their home screen via their browser, providing instant access without the hassle of downloads or updates. This ease of access is complemented by responsive design, ensuring that PWAs perform well across various devices and screen sizes.



Fig. PWA

PWAs are also highly accessible, allowing users to access them directly through a browser without needing app store downloads. This makes them ideal for reaching users with limited device storage or in regions with slower internet speeds, helping businesses connect with a wider audience effortlessly.

However, while PWAs offer numerous advantages, they are not without challenges. For instance, some advanced features available to native apps may not be fully supported in PWAs, particularly on iOS devices, where limitations exist in terms of push notifications and hardware access. Despite these hurdles, many companies have successfully adopted PWAs to enhance user engagement and improve performance. For example, platforms like Pinterest and Starbucks have reported significant increases in user interaction and retention rates after implementing PWAs.

Looking ahead, the future of PWAs appears promising as browser technology continues to advance. With increasing support for new web APIs and features that enhance functionality, PWAs are poised to become an integral part of the digital landscape. As businesses seek efficient ways to connect with users while minimizing costs and maximizing reach, PWAs offer a compelling solution that bridges the gap between traditional web experiences and native app capabilities.

-By Atharva Patil
B.E

Importance of DevOps in Modern Software Engineering

DevOps is a crucial methodology that bridges the gap between development and operations, ensuring faster and more reliable software delivery. By integrating continuous integration/continuous deployment (CI/CD) pipelines, organizations can automate testing, deployment, and monitoring, reducing software release cycles.

DevOps fosters collaboration, enhances efficiency, and improves software quality. Tools like Docker, Kubernetes, Jenkins, and Ansible are widely used in DevOps practices. As businesses strive for agility and rapid innovation, the demand for skilled DevOps engineers continues to grow. What makes DevOps particularly revolutionary is its emphasis on shared responsibility throughout the application lifecycle. When development and operations teams collaborate closely, a mutual understanding emerges that fosters better architectural decisions and more maintainable code.

Infrastructure as Code (IaC) ensures reproducibility and automation in deployments using tools like Terraform and CloudFormation. Observability integrates logging, metrics, and tracing, enabling proactive issue resolution. Treating infrastructure as code improves scalability and maintainability.

What are the Benefits of DevOps in Software Development?

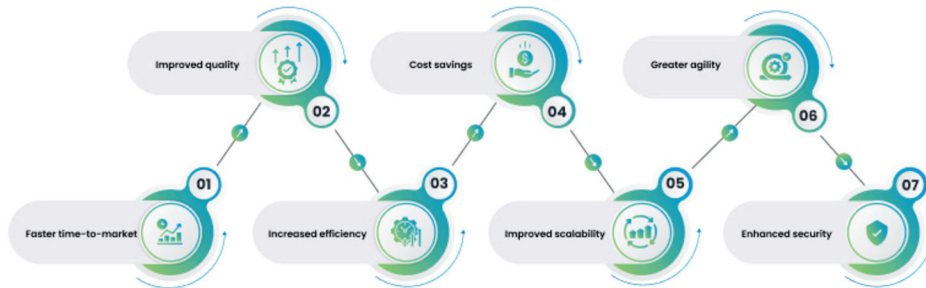


Fig. Benefits of DevOps

DevSecOps embeds security into the development pipeline with automated checks and dependency scanning. Microservices and Kubernetes enhance agility by enabling scalable, independent deployments. Frequent, small releases reduce risks and improve security.

Automation streamlines database migrations, compliance checks, and documentation updates, reducing errors and effort. DevOps success relies on collaboration, fostering seamless integration between teams. Platform engineering further standardizes tools and environments.

DevOps accelerates innovation while ensuring stability and security. Understanding these principles is crucial for building scalable, efficient, and resilient applications in modern software development.

-By Shreyas Pathe
T.E

Data Science and AI: How They Work Together

Data Science and AI are deeply connected, with AI leveraging data science to extract insights and drive automation. Data Science focuses on collecting, processing, and analyzing vast datasets, while AI applies machine learning to detect patterns and optimize decision-making. Industries like healthcare, finance, and e-commerce rely on AI-driven data science for fraud detection, personalized recommendations, and predictive analytics.

AI advancements are transforming data science practices through automated machine learning (AutoML), real-time analytics, and deep learning. Feature engineering plays a crucial role in AI performance, enabling models to learn and generalize effectively. As AI evolves, data governance, model explainability, and ethical considerations remain critical to responsible deployment.

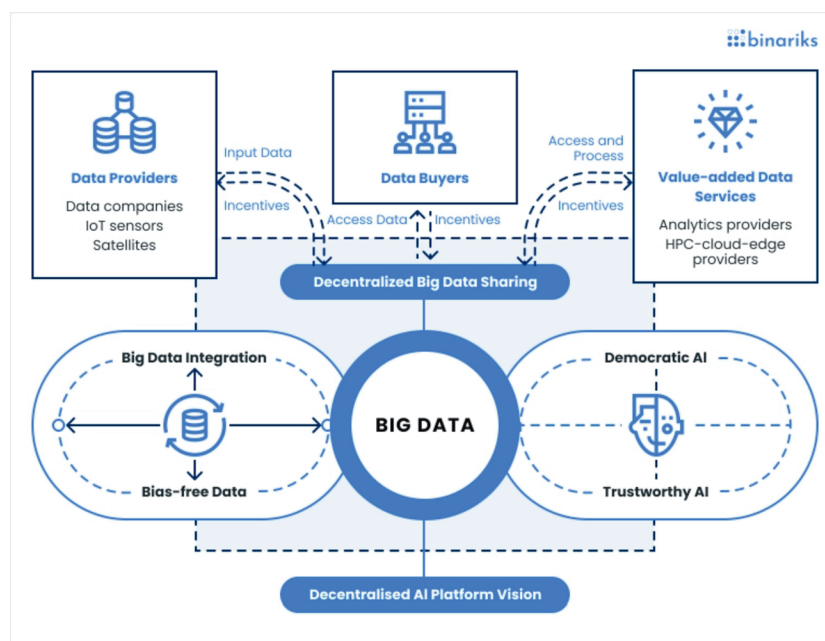


Fig. DS & AI

The collaboration between AI and data science is evident in specialized domains like computer vision and natural language processing (NLP). AI-powered medical imaging enhances diagnostics, while NLP enables large language models that drive conversational AI and content analysis. These fields require careful data preparation and bias mitigation to ensure fairness and reliability.

Financial services integrate AI and data science for advanced risk assessment, combining structured financial data with alternative sources like transaction patterns and social media sentiment. Similarly, time series forecasting benefits from hybrid approaches, blending deep learning with classical statistical techniques for robust predictions.

Edge computing is reshaping AI-driven data science by enabling real-time analytics closer to data sources. Efficient model compression and federated learning enhance AI applications in autonomous vehicles, smart manufacturing, and IoT systems. This shift balances the need for local intelligence with cloud-based computational power.

Looking ahead, quantum computing promises breakthroughs in AI and data science by solving complex optimization and pattern recognition problems. Organizations that harness this evolving synergy will drive technological advancements, creating intelligent, ethical, and data-driven solutions that shape the future.

-By Pranay Ippakayal
T.E

The Future of Connectivity: Understanding 6G Technology

As we stand on the brink of a new era in wireless communication, 6G technology is poised to redefine connectivity in ways we can only begin to imagine. Expected to emerge around 2030, 6G will build on the foundations laid by 5G, offering significantly faster data speeds, ultra-low latency, and enhanced capabilities that will transform industries and daily life. At the heart of 6G is the utilization of terahertz (THz) frequency bands, which promise data rates potentially reaching terabits per second. This leap in performance will enable applications that are currently beyond our reach, such as real-time holographic communication and advanced virtual reality experiences.

One of the most exciting aspects of 6G is its potential to create what researchers call the "Internet of Senses." Unlike previous generations of wireless technology that primarily focused on visual and auditory experiences, 6G aims to incorporate touch, taste, and smell into digital interactions.

6G TECHNOLOGY

Requirements for 6G Wireless Technology

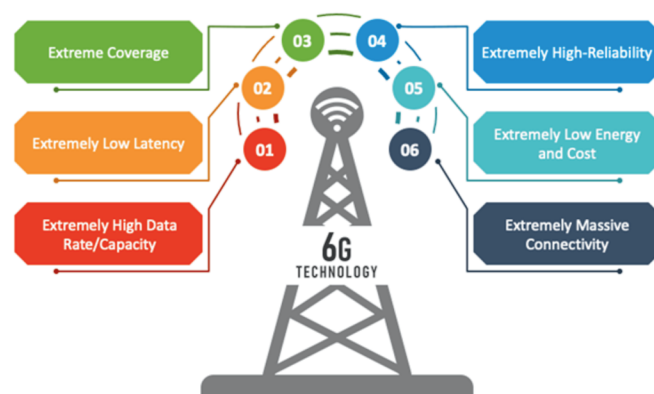


Fig. 6G

6G technology holds the promise of bridging the digital divide by delivering high-speed, reliable connectivity to underserved areas. It can enable access to critical services like online education and telemedicine, empowering communities and fostering greater inclusion and development worldwide.

However, the journey toward 6G is not without its challenges. The use of higher frequency bands presents technical hurdles, such as limited range and susceptibility to interference. To address these issues, advancements in antenna design and signal processing will be crucial. Additionally, achieving global standardization will be essential for ensuring interoperability across different regions and devices. As countries and companies invest in research and development for 6G, they must also consider sustainability; as networks grow more powerful, they must find ways to minimize energy consumption and environmental impact.

The potential applications of 6G are vast and varied. In healthcare, for instance, remote surgeries could become commonplace, allowing surgeons to operate on patients from thousands of miles away with precision and real-time feedback. In smart cities, interconnected systems could optimize traffic flow, energy usage, and public safety in ways that were previously unimaginable. Moreover, advancements in space communication could enable high-speed data transfer between Earth and satellites or even interplanetary missions.

-By Madhur Virarkar
S.E

Large Language Models: From Recurrent Roots to the GPT Revolution

Large Language Models (LLMs) have rapidly transitioned from a niche research topic to a foundation of modern AI applications. When OpenAI's ChatGPT was released in late 2022, it reportedly reached 100 million users within two months making it one of the fastest-adopted consumer applications in the history[1]. These models can generate essays, code, and conversations, sparking public attraction and raising profound questions about machine “intelligence.” But behind the apparent magic of an LLM there is a decades-long story of evolving neural network architectures and training techniques. This article explores that journey from the early days of neural sequence models, through the discovery of Transformers, to today's giants like GPT explaining how they work and what they can do. We will see how LLMs are applied in text generation, translation, and reasoning, and get a sense of the technology that powers systems like ChatGPT.

Early Foundations: Neural Networks That Model Sequences

The quest to handle sequential data such as sentences or time series with neural networks began in the 1980s. Researchers discovered that standard feed-forward networks, which assume independent inputs, were inadequate for data where order matters. A breakthrough was the introduction of recurrent neural networks (RNNs), which include feedback loops so a network's current state influences future outputs. In 1986, Michael Jordan proposed one of the earliest RNN architectures, incorporating a set of recurrent “state” units that fed output signals back as inputs for subsequent time steps [1]. In 1990, Jeffrey Elman built on this concept with an RNN trained on sequences of letters [2]. Remarkably, his model spontaneously discovered word boundaries and even clustered words by semantic category, simply through the task of predicting the next character in text.

These early RNNs showed that neural networks could learn language-like structure directly from data, but basic RNNs struggled with the vanishing gradient problem, which prevented them from effectively learning long-range dependencies. In 1997, Sepp Hochreiter and Jürgen Schmid Huber introduced Long Short-Term Memory (LSTM) networks [3], employing gated mechanisms to preserve information across many time steps. Over the following years, LSTMs (and the related Gated Recurrent Unit, GRU) became the dominant RNN variants for tasks like speech recognition and language modelling. By the mid-2010s, sequence-to-sequence (seq2seq) architectures, which used one RNN as an encoder and another as a decoder, demonstrated end-to-end translation capabilities [4], including Google’s 2016 Neural Machine Translation system [5].

Attention Mechanisms: Letting Networks Focus

A key innovation that supported seq2seq RNNs was the attention mechanism [6] as shown in Figure 1. With attention, the decoder could “attend” to different parts of the source sentence for each output token, rather than rely on a single fixed vector encoding all input information. This improved performance on longer or more complex sentences by allowing the model to learn which input tokens mattered most at each stage of decoding. Attention’s introduction proved to be a major step in capturing contextual nuances and, as it turned out, it would soon reshape the entire approach to building neural networks for language tasks.

By 2017, researchers began experimenting with eliminating recurrence entirely, motivated by the bottleneck of RNNs in handling long-range dependencies and limited parallelization. A Google team introduced the Transformer architecture, famously titled “Attention Is All You Need” by Vaswani et al. [7]. The Transformer relies purely on self-attention—each token in a sequence learns to “look at” every other token to determine how relevant they are to forming its representation. Unlike RNNs, which process tokens sequentially, Transformers process them in parallel, enabling significantly more training speed on modern hardware.

- **Parallelism:** Instead of passing hidden states step by step, the Transformer applies attention across all tokens simultaneously, greatly improving efficiency.
- **Self-Attention:** Each word or token is associated with Query, Key, and Value vectors. The model learns attention weights based on Query–Key compatibility and uses those to mix in the corresponding Values. For Example, “The river has a steep bank.” To correctly interpret “bank” as a riverbank (and not a financial bank), a self-attention layer can have the “bank” token look at the token “river” and give it a high weight. In one step, the representation of “bank” will absorb context from “river,” nudging it toward the “riverbank” meaning
- **Multi-Head Attention:** Multiple heads operate at once, each capturing different relationships—like subject–verb pairs, or reference of pronouns to previous nouns.

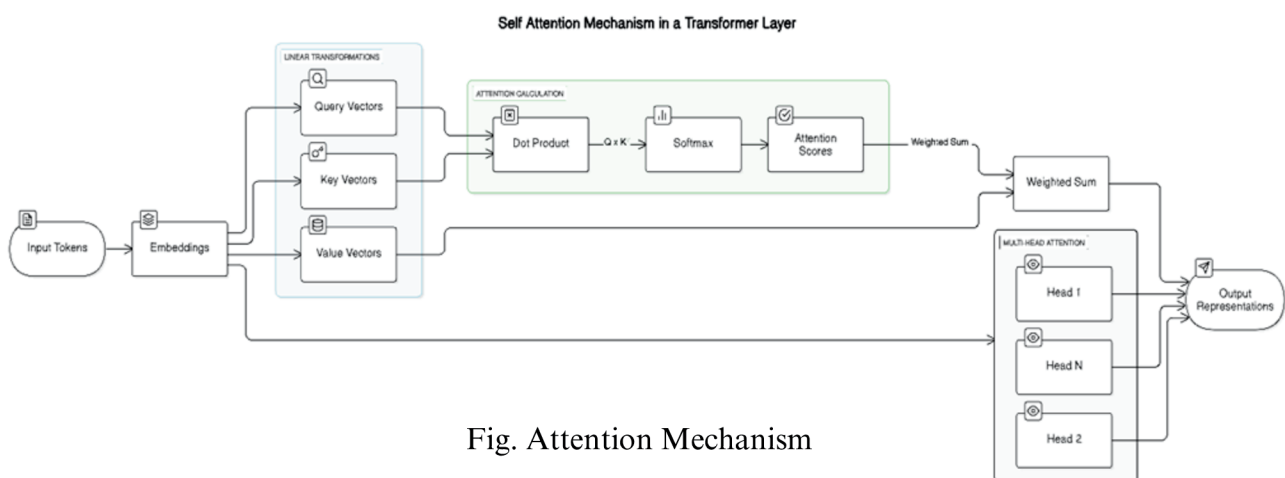


Fig. Attention Mechanism

Transformers quickly became NLP’s go-to architecture. BERT by Devlin et al. [8] leveraged a bidirectional variant of the Transformer for language understanding, and later large-scale Transformer-based models consistently set new state-of-the-art results. Crucially, Transformers scale effectively, showing steady performance gains as more data and layers are added.

Scaling Up: An Era of LLMs

After the Transformer architecture demonstrated its power, researchers refocused on the classic language modelling objective: predicting the next word in a sequence. OpenAI's GPT (Generative Pre-trained Transformer) as shown in Figure 2 was introduced in 2018 as a Transformer decoder trained on large text corpora [9]. Even with ~ 100 million parameters, GPT showed surprising coherence and some zero-shot abilities, suggesting large-scale next-token prediction alone could teach broad language knowledge. In 2019, OpenAI revealed GPT-2, a model with 1.5 billion parameters trained on a wide range of internet text [10]. GPT-2 could generate fluent text, outperforming specially trained models on tasks such as question answering and translation, despite never being explicitly trained on them. This highlighted the power of unsupervised multitask learning: by simply predicting the next word on massive unstructured data, the model acquired implicit capabilities like summarization and translation.

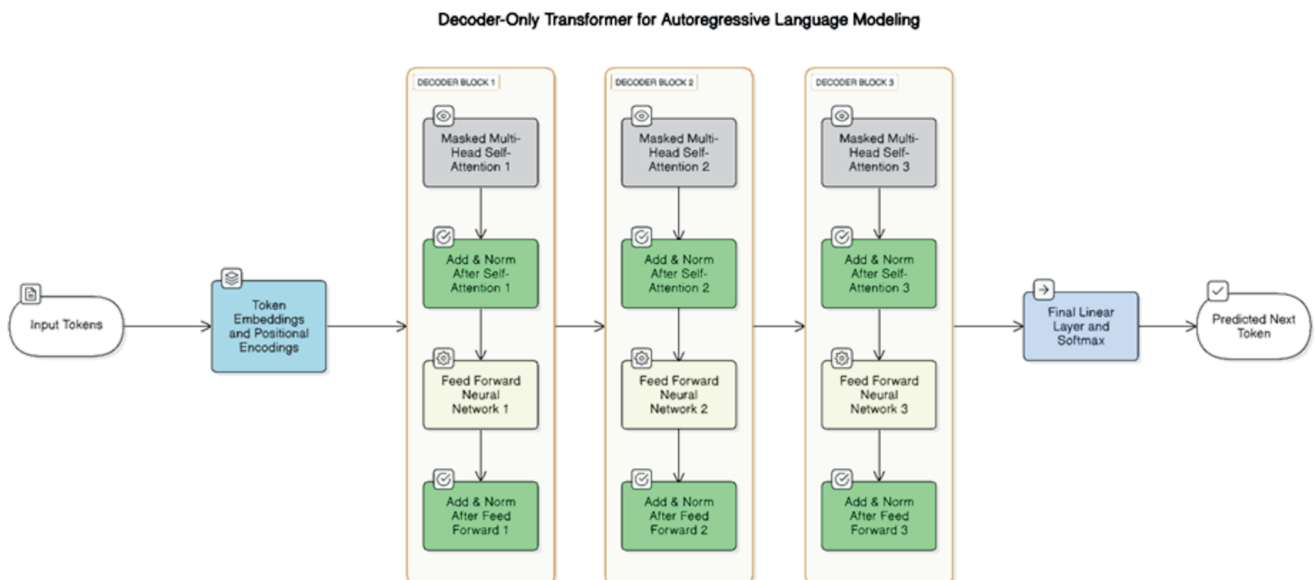


Fig. Generative Pre-trained Transformer (GPT)

OpenAI followed up with GPT-3 in 2020 [11], expanding to 175 billion parameters and training on nearly the entire public web, plus large databases of books and encyclopaedias. This model displayed amazingly emergent properties, including in-context learning (performing new tasks by example in the prompt) without additional parameter updates. GPT-3 could answer general knowledge questions, write passable code snippets, and even handle creative tasks, just by receiving a short textual instruction or a few examples. GPT-3's public impact grew substantially in 2022 when OpenAI fine-tuned it via instruction-following and human feedback, creating InstructGPT [12]. This model, adapted into a user-friendly chatbot interface called ChatGPT, reached millions of users in a short time. By reinforcing correct (and safe) responses, ChatGPT proved how aligning LLMs with human intentions could unlock real-world use across writing, coding, research, and more.

In 2023, OpenAI introduced GPT-4 [13], a multimodal system that accepts both text and images, with a greatly extended context window (up to 32,000 tokens, or around 50 pages of text). Although its technical details are not fully disclosed, GPT-4's improved performance on various professional and academic benchmarks indicates the “scaling” trend continues to yield substantial gains. Meanwhile, other industry and academic labs have entered the LLM race, with models like Google's PaLM [14] at 540 billion parameters, Meta's LLaMA family [15], and various open-source efforts all pushing the limits of model size and sophistication.

Conclusion

From humble recurrent networks in the 1980s to today's massive Transformer-based models, the development of LLMs is a proof to the power of incremental advances overcoming vanishing gradients, innovating with attention, and ultimately scaling to massive architectures. The GPT series in particular demonstrated that with enough parameters and data, a single model could acquire an amazing array of skills often surprising even its creators. Going forward, the challenge shifts to efficient scaling, alignment (ensuring LLMs remain factual, unbiased, and safe), and multimodality (integrating images, speech, and more). The combination of robust language understanding with external knowledge sources is another hot area, enabling systems that can ground their answers in real-time information. LLMs have become indispensable tools across industries powering tutoring systems, code generation, document analysis, creative writing, and beyond and their capabilities continue to expand. The next chapters in this story will determine just how close these models can get to robust reasoning, creativity, and truly conversational interaction. Regardless, the last few years have made it clear that large language models are set to play a defining role in the future of AI.

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-By Prof. Vaishali Shirsath
Assistant Professor, IT

Robotics and the Future of Work: Aligning with PM Modi's Vision for India 2047

As robotics and artificial intelligence (AI) reshape industries worldwide, India stands at a pivotal moment. Prime Minister Narendra Modi envisions "Bharat at 2047" as a developed nation with a \$30 trillion economy, achieved through technological innovation, economic growth, and inclusive development. Robotics can be a cornerstone in realizing this ambitious vision, driving progress while presenting challenges that must be strategically managed. This article explores how robotics aligns with PM Modi's goals for India by 2047 and the steps needed to ensure it benefits all Indians.

Robotics as a Catalyst for Economic Growth

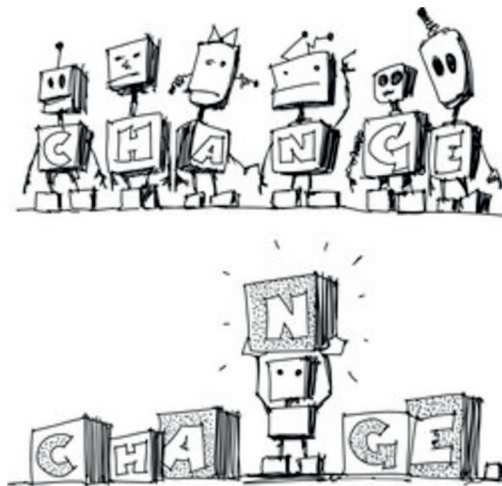
PM Modi's vision sets a bold target: a \$30 trillion economy by 2047, requiring India to sustain high growth and enhance global competitiveness. Robotics can significantly contribute by boosting productivity across key sectors. In manufacturing, collaborative robots (cobots) can work alongside humans, improving efficiency and precision—vital for making Indian goods competitive internationally. In agriculture, a sector critical to India's rural economy, robotic tools like autonomous tractors and drones could increase crop yields by up to 15%, aligning with Modi's emphasis on uplifting marginalized communities. By automating repetitive tasks, robotics frees workers for higher-value roles, fostering innovation and supporting India's economic ascent.

Advancing Technological Leadership

A core pillar of PM Modi's vision is establishing India as a global technology leader. Robotics and AI are central to this ambition, supported by initiatives like the National Quantum Mission and the India Semiconductor Mission. These programs lay the foundation for breakthroughs in robotic hardware and software, positioning India to develop solutions tailored to its unique needs—think healthcare robots for remote areas or automated infrastructure maintenance. The Digital India campaign complements this by expanding digital access, enabling widespread adoption of robotics. By investing in research and development, India can become a robotics innovation hub, attracting global talent and investment as Modi envisions.

Human Development and Workforce Transformation

PM Modi sees India's youthful population as a key strength, but harnessing this demographic dividend means preparing workers for a tech-driven future. Robotics promises new job opportunities—roles like robot technicians, AI trainers, and data analysts will emerge, demanding skills like creativity and problem-solving that machines can't replicate. However, it also risks displacing jobs in repetitive sectors, a challenge Modi's vision addresses through inclusive growth. Scaling up programs like Skill India is essential to reskill workers, while education must evolve to prioritize STEM and digital literacy from an early age. This aligns with Modi's focus on human development, ensuring no one is left behind.



Ensuring Inclusive Growth

For robotics to fully support PM Modi's vision, its benefits must extend to rural and underserved communities. Telemedicine robots can bring healthcare to remote villages, and educational robots can enhance learning where teachers are scarce—directly supporting Modi's goal of equitable development. Yet, unequal access to technology could widen existing gaps, a risk that must be mitigated through targeted policies. Ethical considerations also matter: as robots handle data or make decisions, issues like privacy and bias need addressing. India can craft ethical frameworks that reflect Modi's commitment to fairness, ensuring robotics serves the public good.

Robotics holds transformative potential for PM Modi's vision of India by 2047, driving economic growth, technological leadership, and human development. It can help achieve the \$30 trillion economy, position India as a global innovator, and uplift its people—provided challenges like job displacement and inequality are tackled head-on. Strategic investments in education, infrastructure, and ethical governance are crucial. By aligning robotics with Modi's goals, India can build a future where technology empowers every citizen, fulfilling the promise of a prosperous and inclusive Bharat by 2047.

-By Dr. Madhavi Waghmare
INFT Dept
Asst. Professor

FACULTY ACHIEVEMENTS

- Dr. Madhavi Waghmare published the following papers in the year 2024 :
 - Cloud-based Solutions for Over/Under Voltage Protection Device in Smart Cities (OVPD).
 - Enhancing Driver Safety : Real-Time Distraction and Drowsiness Detection Using Deep Learning.
- Ms. Vaishali Shirsath published a paper titled 'Beyond the Basics: An in Depth Analysis and Multidimensional Survey of Programmable Switch in Software-Defined Networking' in the year 2024.
- Ms. Anagha Patil published the following papers in the year 2024-2025 :
 - CNI-VIF: Enhanced Feature Selection for Graph Databases by Integrating Composite Node Information in VIF.
 - Integrating Graph-Based Features with CNI-VIF for Enhanced Botnet Detection in Network Traffic.
 - RoundGen: Sports Event Scheduler Using Genetic and Round Robin Algorithm.
- Mr. Suresh Rajpurohit published a paper titled 'Exploration of OpenCV for Hand Gesture Recognition Techniques - A Review' in the year 2025.
- Dr. Thaksen Parvat, along with Ramkrishanna manchana, Vaibhav Gandhi, and UL Kulkarni, published book titled 'Cyber Security, Securing the future' for Scientific International Publishers (SIPH) in the year 2024.

FACULTY ACHIEVEMENTS

- Ms. Anagha Patil published the following chapters in the monograph "Challenges and Solutions in Internet of Things-Based Smart Applications" for Chapman & Hall, CRC Press, Taylor and Francis Series publication in 2025 :
 - A Systemic Review of IoT Botnet Detection Techniques.
 - Healthcare IoT: Security Challenges and Solutions.
- Dr. Thaksen Parvat was the Guest Speaker for Webinar titled 'Research Eye-I' at SPIT.
- Mr. Chandan Kolvankar was the resource person for Workshops titled :
 - 'Blockchain for supply chain' organised by DBIT.
 - 'AI Applications' organised by ISTE.
- Dr. Madhavi Waghmare was the resource person for Webinar titled 'Research Proposal' at M.Sc. Vartak College.
- Ms. Vaishali Shirsath published a patent titled 'Rényi Entropy-based slow-rate TCAM exhaustion attack detection in SDN with Programmable Switches' in the year 2024.
- Ms. Anagha Patil along with the following students - Sangini Shetty, Sridhar Pillai, Kunal Patil, and Shreya Kathe, registered a copyright titled 'RoundGen: Sports Event Scheduler Using Genetic and Round Robin Algorithm'.

FACULTY ACHIEVEMENTS

- Ms. Anagha Patil registered copyrights titled :
 - Revolutionizing shrimp farming with IOT based monitoring and control.
 - Air and Water quality analysis using IOT and ML.
- Dr. Archana Ekbote registered a copyright titled 'Noteshare : For the community, By the community' in the year 2024.
- Mr. Suresh Rajpurohit, Ms. Vaishali Shirsath, Dr. Thaksen Parvat, Ms. Pragati Patil, Ms. Jessica Falcao, and Ms. Snehal Mhatre filed a copyright titled 'Modified Resnet 50 algorithm'
- Mr. Suresh Rajpurohit published a patent titled 'Aqua Drone to Collect Floating Waste from Water Reservoir'.
- Mr. Suresh Rajpurohit, Ms. Vaishali Shirsath, and Ms. Pragati Patil published a patent titled 'A system for predicting the progression of chronic kidney disease (CKD)'.
- Mr. Suresh Rajpurohit, Ms. Vaishali Shirsath, Dr. Thaksen Parvat, Dr. Madhavi Waghmare, Ms. Pragati Patil, Ms. Jessica Falcao, Ms. Snehal Mhatre, and Ms. Anagha Patil published a design titled 'Smart fragrance dispenser for washrooms'.
- Mr. Suresh Rajpurohit, Ms. Vaishali Shirsath, Dr. Thaksen Parvat, Dr. Madhavi Waghmare, Ms. Pragati Patil, Ms. Jessica Falcao, and Ms. Snehal Mhatre published a patent titled 'A Deep learning-based system for identifying currency notes for visually impaired individuals and its method thereof'.

FACULTY ACHIEVEMENTS

Faculty as a TPC Member, Reviewer, Session Chair, or Judge

No.	Name of Faculty	Distinguished TPC Member/Reviewers	Role	Name of Journal/Conference/Book
01	Dr. Thaksen Parvat	ICAMIDA-2025, MGM University, Chh. Sambhaji Nagar	Reviewer	ICAMIDA-2025 (Conference)
02	Dr. Archana Ekbote	3rd IEEE Conference IATMSI 2025	Reviewer	IATMSI 2025
03	Dr. Madhavi Waghmare	EAI Endorsed Transactions	Reviewer	Journal
		Journal Iranian Journal of Science and Technology, Transactions of Electrical Engineering	Reviewer	Journal

FACULTY ACHIEVEMENTS

No.	Name of Faculty	Distinguished TPC Member/Reviewers	Role	Name of Journal/Conference/Book
04	Ms. Vaishali Shirsath	IEEE - Internet of Things Journal	Reviewer	Journal
		The Journal of Supercomputing - Springer Nature (Netherlands)	Reviewer	Journal
		Concurrency and Computation Practice and Experience - Wiley Publication	Reviewer	Journal
		Asian Journal of Mathematics and Computer Research	Reviewer	Journal
		International Conference on Advances in Smart Computing and Applications (ICAMCA-2025)	Reviewer	Conference

STUDENT'S ACHIEVEMENTS (TECHNICAL EVENTS)

No.	Names	Year	Rank	Event
01	Zaid Khan	BE	Winner	VNPS 24
	Vaishnavi Deokar			
	Vishal Gupta			
02	Poonam Bhavsar	BE	Winner	VNPS 24
	Riddhi Chavda			
	Akshata Patil			
03	Omkar Laad	SE	Winner	VNPS 24
	Siddhi Hate			
	Aarchy Parekh			
	Meenakshi Kshirsagar			
04	Siddhi Kolwankar	BE	Runner-Up	Oscillations 24
	Shreya Pachurkar			
	Neel Lopes			
	Prathamesh Sawant			
05	Zaid Khan	BE	Winner	Oscillations 24
	Vaishnavi Deokar			
	Vishal Gupta			

STUDENT'S ACHIEVEMENTS (TECHNICAL EVENTS)

No.	Names	Year	Rank	Event
06	Pallavi Thakur	BE	Runner- Up	Oscillations 24
	Pradip Pal			
	Rakesh Zore			
	Nihal Shaikh			
07	Saurabh Rana	TE	Winner	Oscillations 24
	Prathamesh Mayekar			
	Kunal Pitale			
	Harsh Patil			
08	Karan Gandhi	TE	Runner- Up	Oscillations 24
	Sahil Chalke			
	Aditya Shah			
	Rehman Khan			
09	Ramesh Yadav	TE	Winner	Oscillations 24
	Kashish Bhanushali			
	Akash Mourya			
	Meet Dodiya			
10	Omkar Laad	SE	Runner- Up	Oscillations 24
	Siddhi Hate			
	Aarchy Parekh			
	Meenakshi Kshirsagar			

STUDENT'S ACHIEVEMENTS (TECHNICAL EVENTS)

No.	Names	Year	Rank	Event
11	Sakshi Navale	TE	Winner	Green Tech-X competition at Annasaheb Vartak college(Nisarg Utsav) 4
	Kunal Vikas Patil			
	Priyanka Gaikwad			
12	Sakshi Navale	TE	3rd Prize	Swachhta Technology Challenge Competition (GreeninoWar)
	Kunal Vikas Patil			
	Priyanka Gaikwad			
13	Omkar Laad	TE	Winner	VVMC-Swachhta Technology Challenge
14	Sahil Shah	TE	3rd Prize	VCET Hackathon 2024
	Siddhi Hate			
	Aarchy Parekh			
	Ritika Gawand			
15	Sahil Shah	TE	Winner	FACEOFF 12
	Mittrav Shah	BE		
	Kaushik Poojary	SE		
	Yashesh Thakkar	FE		

STUDENT'S ACHIEVEMENTS (CULTURAL & SPORTS EVENTS)

No.	Names	Year	Rank	Event
01	Sangini Shetty	TE	Winner	Solo Dance (Zeal'25)
02	Yash Doke	TE	Winner	Master Stroke (Zeal'25)
03	Vishwanath Mote	SE	Winner	Table Tennis - Boys Singles
04	Kishor Madane	TE	Runner Up	Kabaddi Boys (Avahan'25)
05	Parth Patil	BE		
06	Pratik Patil	TE		
07	Atharva Pimple	BE		
08	Shlok Lad	BE		
09	Kuldeep Kolge	SE		
10	Rahul Chaudhari	SE		
11	Ayush Gadag	SE		
12	Ramesh Yadav	BE		
13	Atharva Patil	TE		
14	Nikhil Patil	TE		
15	Kamlesh Shelar	TE		

STUDENT'S ACHIEVEMENTS (CULTURAL & SPORTS EVENTS)

No.	Names	Year	Rank	Event
16	Varun Kuwar	SE	Winner	Zephyr 5+1 (Tug of war)
	Kuldeep Kolage			
17	Varun Kuwar	SE	Winner	Exuberance 2025 Tug Of War
	Kuldeep Kolage			
18	Varun Kuwar	SE	Runner- Up	Colosseum'24 Tug Of War
	Kuldeep Kolage			
19	Varun Kuwar	SE	Runner- Up	Convegno 20k5 Tug Of War
	Kuldeep Kolage			
20	Varun Kuwar	SE	Runner- Up	Parivartan InterCollegiate Fest 2025 Tug Of War
	Kuldeep Kolage			
21	Varun Kuwar	SE	Runner- Up	Avega 2025 Tug Of War
	Kuldeep Kolage			

STUDENT'S ACHIEVEMENTS (CULTURAL & SPORTS EVENTS)

No.	Names	Year	Rank	Event
22	Sahil Shah	TE	Runner-Up	Avahan 24 (Badminton)
23	Shreyas Pathe	TE	Winner	Ayodhyam - Shri Ram College
24	Pratik Patil	TE	Runner-Up	18th National Level Sports Meet "Summit 25", Pune, Bharat
	Kishore Madane			
25	Pratik Patil	TE	Winner	Rajiv Gandhi College of Arts, Commerce and Science.
26	Pratik Patil	TE	Winner	CONVEGNO 2024 Organized by Rohidas Patil Institute of Management Studies
27	Yash Rahul Padhen	SE	3rd Prize	Open Mic Competition

PLACEMENT 24-25

Sr. No	Company Names	Offers
1	Arcon	3
2	Bristlecone	5
3	CitiusCloud	3
4	Contentstack	3
5	DeltaX	1
6	Dextra Labs	1
7	Feedspot	4
8	Infosys	1
9	Systech Technocraft	2
10	TCS	6
11	Zeus Learning	2
Total		31*

TOPPER'S LIST 24-25

BE		
SR NO.	NAME OF THE STUDENTS	CGPI
1	VATSAL SHAH	9.13
2	KEDAR MALAP	9.05
3	ABHISHEK JANI	9.0
4	SHOBHIT SINGH	8.93
5	OMKAR JADHAV	8.93

TE		
SR NO.	NAME OF THE STUDENTS	CGPI
1	MEET DODIYA	9.32
2	AKASH MAURYA	9.23
3	SEEMA GUPTA	8.91
4	RAMESH YADAV	8.96
5	HARSHI SHAH	8.82

SE		
SR NO.	NAME OF THE STUDENTS	CGPI
1	SAHIL SHAH	9.17
2	YASH DOKE	8.96
3	DURVESH ROGE	8.78
4	SHREYAS PATHE	8.74
5	SANGINI SHETTY	8.65

**DEPARTMENT OF
INFORMATION TECHNOLOGY**

**EVENT
PICTURES**

VCET HACKATHON '24



ELIXIR'24



VNPS'24



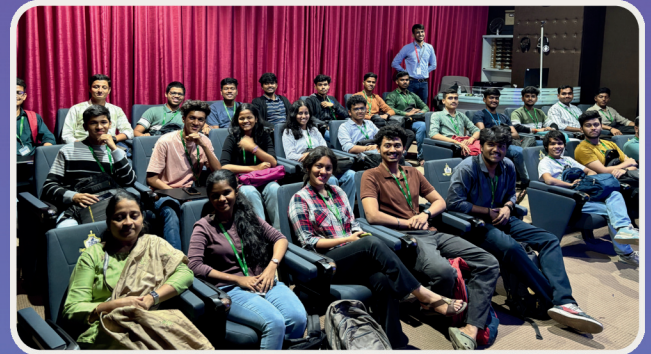
CORE CODING COMMITTEE (C3)



ZEAL'25



INDUSTRIAL VISIT



**Industrial Visit to Vighnesh INC near Thakur College Campus,
Kandivali, featuring a 5-hour training session on industry
practices for IT students.**

AVAHAN'25



OTHER ACHIEVEMENTS



Shreyas Pathe TE IT wins Gold Medal in Badminton Men's Singles and Doubles in Intercollegiate Tournament held at Clara's College of Commerce, Versova



Varun Kuwar and Kuldeep Kolage won first place in the Tug of War competition at St Francis College.



Face Off Winner



Shreyas Pathe TE IT Won Intercollegiate Men's Badminton Singles at Shri Ram College



Pratik Patil and Kishor Madane won 2nd place in Kabaddi at the National Level Sports "Summit", organized by MIT Pune

OTHER ACHIEVEMENTS



**Yash Padhen 1st Runner-Up
in Open Mic, Valia College**



**Varun Kuwar and Kuldeep Kolage secured
second place in the Tug of War competition
at JES College.**



**Varun Kuwar and Kuldeep Kolage secured
second place in the Tug of War
competition at RPIMS SN College.**



**Varun Kuwar and Kuldeep Kolage secured
second place in the Tug of War
competition at Aavega event in ML
Dhanukar College.**



**Varun Kuwar and Kuldeep Kolage
secured second place in the Tug of War
competition at Ruia College.**



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