



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

KT MARG, VASAI(W), PALGHAR-401202

**Department of Information Technology
Presents**



**LOGIN
TO
EXPLORE**

2024 | 15TH EDITION

VISION & MISSION

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.

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**

I-TECH COMMITTEE

**Dr. Harish Vankudre
PRINCIPAL**

**Dr. Thaksen Parvat
HEAD OF DEPARTMENT**

**Ms. Snehal Mhatre
STAFF INCHARGE**

**Niyukti Patil
CHAIRPERSON**

**Aishwarya Nair
NEWSLETTER HEAD**

**Kaushal Mestry
TREASURER**

**Aditya Hendve
GRAPHICS HEAD**

**Kavisha Pachalkar
EDITING HEAD**



From HOD's Desk

I am immensely proud to present you 15th edition of VCET, Information Technology Departmental Magazine, "LOGIN... To Explore ". The magazine gives an insight into the initiatives taken by the department to inculcate superior virtues in the students and encourage them.

Education is the foundation, but continuous learning is the scaffolding of success in IT. The department endeavors to produce confident professionals tuned to real time working environment and aims to offer excellent academic environment with a team of highly qualified faculty members to inspire the students to develop their technical skills and inculcate the spirit of team work in them. The Magazine and Newsletter of our department facilitates our students and faculty members to publish their achievements and efforts.

Reflecting upon all the activities taking place in the department, the face of the department has changed considerably whether it is the number of co- curricular activities to new course offerings, the environment continues to grow and evolve. Empowering minds with technology isn't just about tools; it's about unlocking potential and shaping a brighter tomorrow

All this wouldn't have been possible without the spirit of co-operation and understanding between the staff and the students. I convey my warm regards to the entire I-Tech team for their relentless efforts and extend my best wishes for their future endeavors.

Dr. Thaksen Parvat

Head of Department, Information Technology (VCET)



From Staff-Incharge's Desk

I am delighted to present the 15th edition of “LOGIN... To Explore”, the Annual Technical Magazine of Department of Information Technology. Departmental Committee ‘I-Tech’ provides a flair to the latest technological advancement. The key purpose of this magazine is to convey to the readers the trends and development in the field of Information Technology.

The inhouse annual magazine reflects the success stories of our students and the faculty members. It is circulated to all students and faculty members containing information including Curricular & Extra-curricular activities. It also highlights the top-notch rankers in University, whereas the Newsletter rives insights of all the greatest accomplishments of the IT industries around the globe.

On behalf of ‘I-Tech’ Committee we would like to extend our sincere gratitude to Our Beloved Principal Dr. Harish Vankudre for his support and also Our HOD Prof. Thaksen Parvat for their valuable guidance. Special thanks to our dedicated Team of Designers, Editors, and PRs and also the entire I-TECH Committee who have put in their heart and soul to the making of this magazine.

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

Happy Reading...

Ms. Snehal Mhatre
Staff-In Charge, I-TECH Committee



From Chairperson's Desk

I am pleased to introduce the 15th edition of our IT department's Magazine: LOGIN... To Explore, showcasing the dynamic landscape of technology and its profound impact on society. This year, our I-TECH committee endeavors to enlighten our students on the ever-evolving domain of technological advancements and its implications for the future.

Through this edition, we aim to delve into the latest developments and research in Information Technology, highlighting its integration with diverse industries and the resulting groundbreaking innovations. Furthermore, LOGIN celebrates the exceptional achievements of our students and faculty members, both within and beyond the academic province.

I extend my heartfelt gratitude to our honorable Head of Department, Dr. Thaksen Parvat, and our dedicated staff in-charge, Ms. Snehal Mhatre, for their unwavering support and guidance to the I-TECH committee. I also commend our team members for their tireless efforts in curating this publication, which serves as a tribute to our collective commitment to excellence.

The I-TECH committee remains steadfast in its mission to educate and inspire students with the latest technological trends and innovations, striving to surpass our achievements with each successive edition.

Niyukti Patil
Chairperson, I-TECH Committee

LOGIN TO EXPLORE

Sr. No.	Content	Page No.
01	The Future of Trust in the Digital India	01
02	Metaverse: Blurring the lines between Reality and Virtuality	03
03	Can Machines outsmart Hackers? The Rise of AI in Cybersecurity	05
04	The Connected Revolution: Why You Can't Ignore IoT	07
05	The Intersection: Where Business Intelligence Meets Data Science	09
06	Lambda: Unleashing the Power of Serverless Computing	11
07	MERN Stack: Building Dynamic Web Apps Faster	13
08	Beyond 5G: The Race to 6G	15
09	Software-Defined Networking	18
10	Faculty Achievements	21
11	Students Achievements	23
12	Events	32

The Future of Trust in the Digital Age

The digital age has ushered in an era of unprecedented connectivity and information exchange. This interconnected world fosters global communities and instant access to knowledge. However, lurking beneath this veneer of progress lies a growing threat: the erosion of trust. Deepfakes, hyper-realistic synthetic media capable of manipulating audio and video content, pose a monumental challenge to the very foundation of truth and credibility online. Their ability to seamlessly fabricate narratives and distort reality necessitates a critical exploration of the multifaceted consequences and potential solutions to this looming crisis.

A Web of Deception: How Deepfakes Weaponize Misinformation

Deepfakes leverage powerful artificial intelligence algorithms to analyze existing footage of individuals, meticulously extracting voice patterns, facial expressions, and mannerisms. Subsequently, these algorithms can synthesize entirely new content featuring the targeted individual saying or doing things they never did.

Manufacturing Political Scandals: Malicious actors can exploit deepfakes to create fake news depicting political opponents engaging in corrupt or illegal activities. A deepfake portraying a candidate accepting bribes or endorsing controversial policies can significantly damage their reputation and sway public opinion during elections.



Fig.Deepfakes

Beyond Manipulation: The Cascading Impact of Deepfakes on Society

The consequences of deepfakes extend far beyond the immediate manipulation of information. The constant exposure to fabricated content can have a profound psychological impact on individuals and society as a whole:

Erosion of Trust in Institutions: When the very fabric of reality becomes questionable, public trust in institutions like media outlets and governments severely erodes. This fosters a climate of cynicism and skepticism, hindering effective governance and social cohesion. Deepfakes can be used to manipulate public perception of government policies or media reporting, leading to a decline in public trust towards these institutions.

Paranoia and Social Anxiety: The inability to discern genuine information from deepfakes can lead to a sense of constant suspicion and anxiety. Individuals may become hesitant to engage in online discourse or share personal information, hindering healthy social interactions and fostering a sense of isolation.

Establishing international frameworks for information sharing and coordinated efforts to tackle the spread of deepfakes is essential. Collaboration between governments, tech companies, and international organizations can facilitate the development of shared standards for content moderation, the exchange of deepfake detection tools, and the creation of legal frameworks to address the international circulation of malicious content. Combating deepfakes solely through reactive measures is insufficient.

-By Abhishek Jani

BE-IT

Metaverse: Blurring the Lines Between Reality and Virtuality

The digital landscape stands on the precipice of a monumental transformation. The Metaverse, an immersive virtual world accessible through advanced technology, promises to revolutionize the very essence of human interaction, work, and even the perception of reality itself.. Transcending the limitations of conventional online experiences, the Metaverse carves a unique space. Imagine a persistent 3D virtual world where individuals exist as personalized avatars, seamlessly interacting with others, engaging in social activities, and even owning virtual assets.

Virtual Reality (VR): VR headsets transport users into captivating virtual environments. By simulating sight, sound, and even touch, VR headsets create a sense of physical presence within the Metaverse. Imagine attending a virtual concert and feeling the pulsing rhythm of the music or attending a virtual meeting and making eye contact with colleagues across the globe.



Fig.Metaverse

Augmented Reality (AR): AR overlays digital elements onto the physical world, enabling users to interact with virtual objects seamlessly integrated into their real surroundings. Unlike VR, which completely immerses users in a virtual environment, AR enhances the physical world with digital information. Imagine viewing 3D instructions for furniture assembly overlaid on your actual workspace or attending a virtual museum exhibit with digital representations of historical artifacts displayed alongside their physical counterparts.

Beyond Entertainment: A Universe of Applications

The Metaverse extends far beyond the realm of mere entertainment. Its applications encompass diverse sectors, fundamentally altering how we approach various aspects of life:

Revolutionizing Workspaces: Imagine attending virtual meetings in a shared 3D space, collaborating on projects in real-time using virtual whiteboards, and fostering a more immersive work environment regardless of physical location. The Metaverse has the potential to redefine the traditional workplace, enabling geographically dispersed teams to collaborate seamlessly and conduct virtual meetings that feel closer to in-person interactions.

Transforming Education: The Metaverse can create interactive learning experiences that transcend the limitations of physical classrooms. Students can explore historical events in immersive environments, virtually travel to historical landmarks, conduct virtual experiments in science labs, and engage in collaborative learning activities within these captivating virtual spaces.

The Metaverse opens doors for new professions like virtual architects, event planners, and digital asset creators, catering to the needs of this burgeoning virtual world. As the Metaverse evolves, new job opportunities will emerge, requiring individuals with specialized skills in areas like 3D design, virtual world development, and content creation for the Metaverse. By acknowledging the challenges, fostering a collaborative spirit, and prioritizing responsible development, we can harness the immense potential of the Metaverse to create a future where the digital and physical worlds coexist in harmony, fostering innovation, enriching human connection, and shaping a brighter future for all.

-By Khushboo Mishra

TE-IT

Can Machines Outsmart Hackers? The Rise of AI in Cybersecurity

The ever-evolving landscape of cybersecurity necessitates continuous adaptation and the adoption of cutting-edge solutions. Artificial intelligence (AI) has emerged as a powerful tool in the fight against cybercrime, offering immense potential to revolutionize the way we secure our digital infrastructure. This begs the critical question: can machines truly outsmart hackers and usher in a new era of impenetrable cybersecurity?

The Growing Sophistication of Cyber Threats:

Cybercriminals are constantly innovating, developing new techniques and exploiting novel vulnerabilities. Traditional security measures often struggle to keep pace with this relentless advancement. Malicious actors are employing increasingly sophisticated methods like ransomware attacks, social engineering scams, and zero-day exploits that target previously unknown weaknesses in software. Cybercriminals are leveraging automation tools to launch large-scale attacks, making it difficult for traditional security solutions to identify and mitigate threats in real-time. The ever-growing number of interconnected devices (Internet of Things) creates a vast attack surface for malicious actors to exploit. These factors highlight the need for intelligent and adaptable security solutions capable of not only identifying existing threats but also anticipating and proactively defending against emerging ones. This is where AI steps in, offering unique capabilities to address the challenges of the modern cybersecurity landscape.

AI can be a game-changer in the fight against cybercrime by offering the following functionalities:

Advanced Threat Detection and Analysis: AI-powered systems can analyze vast amounts of data in real-time, identifying patterns and anomalies that might indicate malicious activity. Machine learning algorithms can continuously learn and evolve, adapting to new attack methods and improving threat detection accuracy over time.



Fig.AI In Cybersecurity

The Evolving Landscape: Embracing a Culture of Continuous Learning

Focus on Research and Development: Investing in research and development is crucial to stay ahead of emerging threats and develop robust AI-powered security solutions.

Collaboration and Knowledge Sharing: Collaboration between stakeholders, including security researchers, technology providers, governments, and the public, is essential to foster a comprehensive understanding of the evolving threat landscape and develop effective countermeasures.

While AI holds immense potential to revolutionize cybersecurity, it is crucial to acknowledge that it cannot single-handedly eradicate cybercrime. A combination of advanced AI-powered security solutions, human expertise, and ongoing efforts towards security awareness and education is necessary to create a robust defence against the ever-evolving threats in the digital world.

-By Karan Gandhi

TE-IT

The Connected Revolution: Why You Can't Ignore IoT

The Internet of Things (IoT) is no longer a futuristic vision; it's rapidly becoming a pervasive reality. From our homes to our cities, a growing network of interconnected devices is transforming the way we live, work, and interact with the world around us. This "connected revolution" presents a multitude of opportunities, but also necessitates a closer look at its implications.

Why is IoT a Revolution?

Smarter Homes: Imagine a home that adjusts temperature based on your preferences, notifies you when groceries are running low, or even alerts you of potential security breaches. Smart home devices like thermostats, refrigerators, and security systems create a personalized living experience with enhanced convenience and security.

Personalized Healthcare: Wearable devices like fitness trackers and smartwatches are now commonplace, collecting real-time health data. This allows for remote patient monitoring, personalized health recommendations, and earlier disease detection.

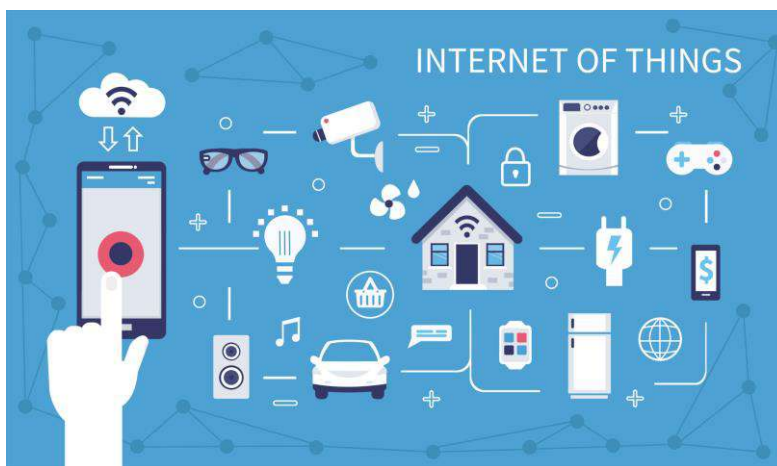


Fig. Internet Of Things (IoT)

Navigating the Connected Revolution: A Collaborative Effort

Harnessing the full potential of IoT demands collaboration from various stakeholders:

Technology Providers: Developing secure and user-friendly IoT devices with robust privacy features is critical. Transparency about data collection practices and user control over personal information are essential for building trust within the consumer base.

Governments: Establishing clear regulations and frameworks for data security, user privacy, and responsible development of IoT devices is crucial. Governments can also play a role in promoting research and development in this field, fostering innovation and addressing potential security vulnerabilities.

Public Discourse: Open dialogue about the potential benefits and risks of IoT is crucial. Fostering public awareness and encouraging responsible development is essential.

Investing in Education: Equipping individuals with the skills and knowledge to navigate the connected world is paramount. Educational programs can focus on digital literacy, cybersecurity awareness, and responsible data practices.

Fostering Innovation: Continuous research and development are crucial for advancing IoT capabilities and addressing emerging challenges. Investment in research institutions and start-ups can propel innovation and ensure responsible development of this transformative technology.

The connected revolution is here to stay. By embracing it with a critical lens, prioritizing security, promoting inclusivity, and fostering collaboration, we can harness the power of IoT to shape a future that is not only smarter but also more sustainable, equitable, and ultimately, beneficial for all.

-By Vaishnavi Dungawat

TE-IT

The Intersection: Where Business Intelligence Meets Data Science

In today's data-driven world, businesses are drowning in information. But within this vast ocean lies a treasure trove of insights waiting to be unearthed. This is where the powerful synergy of Business Intelligence (BI) and Data Science comes into play. BI provides the critical tools to gather, organize, and analyze historical data, offering valuable hindsight and informing present decisions. Data Science, on the other hand, delves deeper, leveraging advanced analytics and machine learning to unlock future possibilities and predict trends.

Real-World Applications: Lighting the Way with BI & Data Science

Boosting Customer Experience: See how companies leverage sentiment analysis and customer journey mapping to personalize experiences and drive loyalty.



Fig. Business Intelligence

Fraud Detection & Risk Management: Discover how anomaly detection algorithms identify fraudulent activities before they happen, saving businesses millions.

Market Research Revolution: Learn how machine learning can analyze vast datasets to uncover consumer trends, predict future market behaviour, and inform product development.

The Future is Now: Exploring the Cutting Edge

AI Integration: Uncover the exciting possibilities of integrating artificial intelligence into your BI & Data Science workflows for more advanced insights and automation.

Taming Big Data: Discover the latest tools and techniques for managing and analyzing massive datasets, unlocking the true value of big data.

The Democratization of Data: Learn about the emergence of self-service BI and data science platforms, empowering everyone in the organization to leverage data effectively.

Mastering the Art of Data Communication:

Data Visualization Done Right: Learn how to transform complex data sets into visually compelling stories that everyone can understand, from executives to front-line employees.

The Power of Storytelling with Data: Discover how to present your data findings in a clear, concise, and impactful way that drives action.

The intersection of BI and Data Science presents a game-changing opportunity for businesses of all sizes. By embracing this powerful synergy, you can transform your organization from data-rich to data-driven. You'll gain the ability to identify hidden patterns, predict future outcomes, and make informed decisions that propel you towards achieving your strategic goals. So, embark on this journey with us, and unlock the immense potential that lies at the intersection of Business Intelligence and Data Science. Let's turn data into insights, insights into action, and action into a future of unparalleled success.

-By Sangini Shetty

SE-IT

Lambda: Unleashing the Power of Serverless Computing

The way we build applications is undergoing a radical transformation. Serverless computing, a disruptive force in this evolution, is liberating developers from the shackles of traditional server management. At the forefront of this revolution stands AWS Lambda, a powerful service offered by Amazon Web Services. This article delves into the intricate workings of Lambda, empowering you to harness its potential and unleash a new era of development efficiency.

At the heart of Lambda lies a core set of functionalities that make it a game-changer:

Event-Driven Architecture: Lambda functions are triggered by events. An image upload to S3 storage? A new user signup? A scheduled task? These events become the catalysts that awaken your Lambda functions to perform specific actions.

Effortless Scalability: Gone are the days of manual scaling. Lambda scales automatically based on incoming events. Need to handle a surge in traffic? No problem. Lambda seamlessly allocates resources to meet the demand.

Code Flexibility: Lambda supports a variety of programming languages, allowing you to choose the one that best suits your needs. From Python and Java to Node.js and Go, Lambda offers the freedom to leverage your preferred development environment.

Real-World Applications: Where Lambda Shines

The versatility of Lambda extends to a vast array of use cases across industries:

Image Processing: Resize, compress, and apply filters to images uploaded to S3 storage, triggered by the upload event itself.



Fig.Aws Lambda

The benefits of embracing Lambda and serverless computing are numerous:

Cost-Effectiveness: Pay only for the compute time your code utilizes. No more idle servers draining your resources.

Faster Development Cycles: Focus on writing code, not managing infrastructure. This translates to quicker development cycles and faster time-to-market.

Simplified Maintenance: AWS handles server patching and maintenance, freeing you to dedicate your efforts to core application functionality.

Increased Agility: Serverless architecture allows for rapid scaling and deployment, enabling you to adapt to changing business needs with greater ease. By embracing AWS Lambda and serverless computing, you unlock a treasure trove of benefits: cost-effectiveness, faster development cycles, simplified maintenance, and increased agility. While considerations like vendor lock-in and debugging nuances exist, the advantages outweigh the challenges. Take the first steps toward your serverless journey and witness the power of Lambda transform your development process. Lambda equips you with the knowledge and tools to navigate this exciting new paradigm.

-By Riddhi Patel

SE-IT

MERN Stack: Building Dynamic Web Apps Faster

Have you ever encountered a web application that feels like it's stuck in molasses? Slow loading times, unresponsive interfaces, and clunky interactions can quickly turn users away. In today's fast-paced digital world, speed is no longer a luxury; it's a necessity. This is where the MERN stack steps in, offering a powerful solution for building dynamic and responsive web applications that keep users engaged. The MERN stack, with its focus on JavaScript harmony and a developer-friendly ecosystem, presents a compelling solution for building lightning-fast and dynamic web applications.

The MERN stack emerges as a powerful solution for building lightning-fast and dynamic web applications. MERN is an acronym that combines four powerful technologies:

MongoDB: A flexible NoSQL document database that allows for storing and retrieving data in a more intuitive way compared to traditional relational databases.

Express.js: A lightweight web framework built on top of Node.js that simplifies back-end development by providing a robust set of features for handling routes, middleware, and server-side logic.

React: A popular JavaScript library for building user interfaces. React's component-based architecture allows developers to create reusable and maintainable code, leading to faster development cycles.

Node.js: An open-source JavaScript runtime environment that allows you to run JavaScript code outside of the browser. This enables a full-stack development experience with JavaScript, streamlining communication between front-end and back-end.

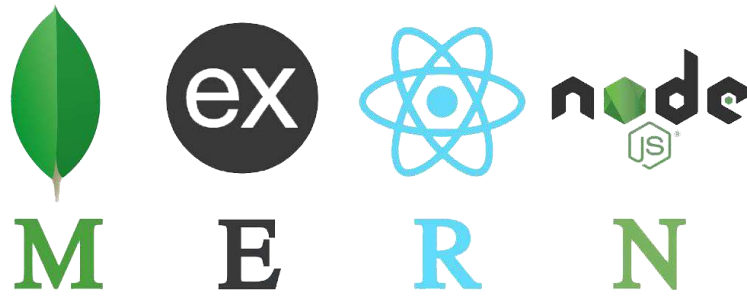


Fig.Mern Stack

The Magic of JavaScript Harmony

One of the biggest advantages of MERN stack is its unified reliance on JavaScript. Developers can leverage their JavaScript skills across the entire development process, from front-end UI creation to back-end logic and database interaction. This eliminates the need to learn and switch between different programming languages, leading to:

Reduced Context Switching: Developers can focus on writing code instead of learning new syntax and paradigms for different languages.

Faster Development Cycles: Using a single language streamlines the development workflow and allows for quicker iteration and prototyping.

From reduced context switching to enhanced developer experience and highly scalable architecture, MERN empowers developers to create exceptional user experiences. This is just the beginning of your MERN stack journey. Stay tuned for future articles where we'll delve deeper into building your first MERN application, optimizing performance, and unlocking the full potential of this powerful development stack. Get ready to build the future of the web, one fast and dynamic app at a time!

-By Manas Tambe

TE-IT

Beyond 5G: The Race to 6G

5G offers a significant leap in speed and capacity compared to 4G, but the ever-growing demand for data and the explosion of connected devices are pushing the boundaries of current technology. Here's where 6G comes in. Imagine downloading a full-length movie in seconds, experiencing virtual reality with zero lag, or having surgery performed by a robot controlled remotely with haptic feedback – all thanks to near-instantaneous data transfer and ultra-reliable connections.

So, what exactly makes 6G different? Here are some key technical advancements that will underpin this next-generation network:

Terahertz Frequencies: While 5G utilizes frequencies below 50 GHz, 6G aims to tap into the terahertz (THz) spectrum, ranging from 100 GHz to 3 THz. These higher frequencies offer significantly wider bandwidths, allowing for much faster data transmission.

AI-Powered Networks: Artificial intelligence (AI) will play a crucial role in managing the complex demands of 6G networks. AI will optimize resource allocation, predict network congestion, and enable self-healing capabilities for faster recovery from issues.



Fig.6th Generation

New Materials: Developing materials that can efficiently handle THz frequencies and extreme data processing demands will be crucial. Researchers are exploring materials like graphene and gallium nitride for their potential in 6G applications.

6G Applications: Transforming Industries

The potential applications of 6G are vast and transformative. Here are some key areas where 6G is poised to make a significant impact:

The Internet of Things (IoT): With billions of connected devices, 6G will enable seamless communication and real-time data exchange for a truly interconnected world.

Smart Cities: Imagine traffic lights that dynamically adjust based on real-time traffic data, or waste management systems that optimize collection routes – 6G will power these intelligent city applications.

Advanced Healthcare: Imagine remote surgeries performed with no lag, or AI-powered diagnostics using real-time patient data – 6G has the potential to revolutionize healthcare.

The development of 6G requires collaboration on a global scale. Governments, research institutions, and the private sector all need to work together to address the technical challenges, establish standards, and ensure responsible development and deployment of this transformative technology. The future of connectivity is bright, and 6G holds the potential to unlock a world of possibilities.

1. Increased capacity by including the sub-THz spectrum and a functional range of 30 to 300 GHz.
2. Increased peak speeds of up to 1 terabit per second.
3. Reduced latency, with the goal of supporting microsecond latency.
4. Over three-times increase in spectral efficiency, up to 100 bps/Hz.
5. Increase mobility support, of up to 1000 km/h or 600 mph.

The first 6G network countries will likely include the earliest adopters of 5G networks, as nations that were at the forefront of the 5G landscape are technology-forward countries that are classically on the cutting edge. However, it may take years after early adopters launch their 6G networks for 6G to be available in any country. After all, 5G began in 2019, and as of 2023, 5G still isn't available worldwide, and the expansion timelines for 6G will likely be similar.

-By Aditya Trivedi

BE-IT

Software-Defined Networking (SDN)

Software-defined networking (SDN) represents a paradigm shift in the design and management of networks. SDN introduces a level of flexibility and programmability previously unseen by decoupling the network control logic from the packet forwarding function. Unlike traditional methods, software controls the key functions that manage how data packets are sent and other network tasks. This approach does not rely on any specific set of networking protocols. Instead, it uses open application programming interfaces (APIs) and a suite of software tools designed to work with these APIs.

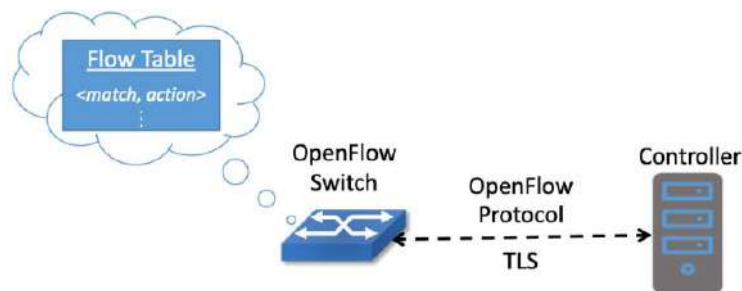


Fig.SDN configuration.

The decoupling in SDN allows for a central control point that dictates how data packets are routed, improving efficiency and making network management more adaptable to changing needs. For instance, the control plane can dynamically adjust routes for data packets, optimizing network bandwidth and reducing latency without manually reconfiguring hardware devices. This structure allows for sophisticated routing strategies, such as those used in various routing protocols (e.g., BGP, OSPF, or RIP), to be applied seamlessly, ensuring data packets are efficiently and reliably forwarded across the network.

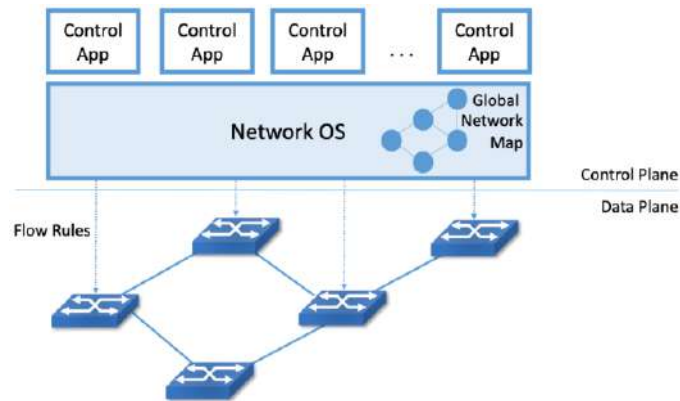


Fig. Disaggregation of Control and Data Planes

The inception of SDN was motivated by a desire to revolutionize the networking market, drawing inspiration from the transformation seen in the computing industry. Traditionally, the networking market was dominated by vertically integrated solutions. This meant that a customer wanting a solution to some problem (e.g., finance, design, analysis) bought a vertically integrated solution from a single vendor, typically a large mainframe company like IBM.

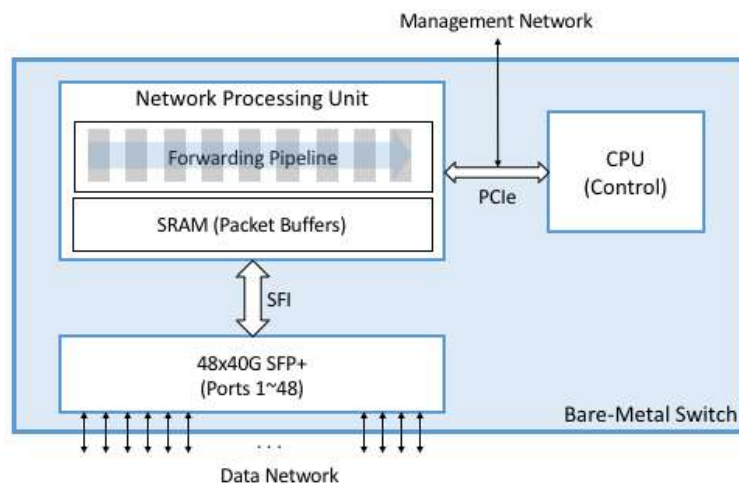


Fig. High-Level schematic of a bare-metal switch

In recent years, significant advancements have been made in SDN architecture, particularly with the introduction of programmable switches, which have become pivotal in driving more agile and customizable networks. These switches, powered by high-level programming languages like P4, enable the precise specification and manipulation of network packet treatment directly within the network devices. The separation of the control and data planes has reached a new level of sophistication, allowing centralized control logic to adapt to network conditions dynamically

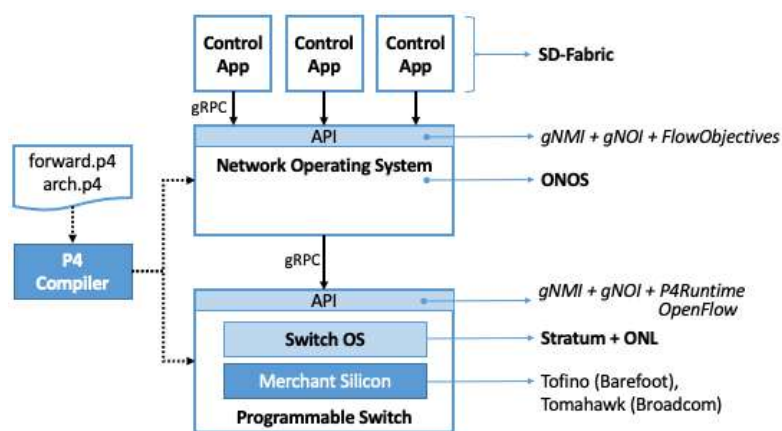


Fig. Programmable Switch architecture.

Consequently, network operating systems can implement complex strategies for traffic management, security, and performance optimization through a programmable match-action pipeline. With these advancements, SDN is setting the stage for networks to support the demanding, data-driven applications of the future, enabling seamless scalability and fostering an ecosystem where innovation is limited only by the imagination of network designers.

-By Ms. Vaishali Shirsath

INFT Dept

Asst. Professor

FACULTY ACHIEVEMENTS

- Mr. Chandan Kolvankar and Mrs. Anagha Patil were resource person for 2 weeks at VCET and were the speakers of the topic ‘Session in Exhilarating Socio-Human Life Using Deep Learning’.
- Dr. Archana Ekbote and Dr. Madhavi Waghmare published a paper titled EventMingle Management System in the year 2023-24.
- Dr. Madhavi Waghmare and Mrs. Vaishali Shirsath published book titled ‘Advance Database Management System’ for Nirali Publication in the year 2023-24.
- Dr. Madhavi Waghmare and Mrs. Vaishali Shirsath published book titled ‘Software Engineering’ for Nirali Publication in the year 2023-24.
- Dr. Madhavi Waghmare and Mrs. Vaishali Shirsath published book titled ‘Advance Data Management technologies’ for Nirali Publication in the year 2023-24.
- Mrs. Vaishali Shirsath has received a patent for her invention titled ‘Intelligent Waste Collector Bin’.
- Mr. Sainath Patil published a paper with the title ‘Enhancing Web Server Security Through Innovative Feature Selection Technique: A Comparative Analysis of ML Algorithms on KDD CUP 99 and UNSW-NB 15 datasets’ in the year 2023-24.

FACULTY ACHIEVEMENTS

- Mrs. Anagha Patil published the following papers in the year 2023:
 - Evaluating ML models on CTU-13 and IOT-23 Datasets.
 - An Efficient Botnet Detection Using Machine Learning and Deep Learning.
 - An application development for smart monitoring of COVID patients using six stage microbiological health systems.
 - Real-Time Future Stock Price Prediction Using Machine Learning Algorithms.
 - Startup Funding App using Flutter and Machine Learning.
- Mrs. Anagha Patil, along with the following students- Kedar Malap, Himadri Manna, Suraj Mahto and Yash Raut secured a copyright for the title ‘Stock Price Prediction Using Linear Regression’.
- Mrs. Anagha Patil, along with the following students- Aditya Trivedi, Tanmay Arsanian, Rishabh Nahar and Anish Mohite secured a copyright for the title ‘Start-up Funding App Using Flutter and ML’.
- Mrs. Pragati Patil published the paper titled BlendUI The All-in-One CSS library.

STUDENT'S ACHIEVEMENTS (TECHNICAL EVENTS)

No.	Names	Rank	Event
BE's			
01	Harshita Madane	Winners	VNPS'23 (2022-23)
02	Insha Mulla		
03	Mrunmayi Patankar		
04	Akshay Hedge	Winners	VNPS'23 (2022-23)
05	Nilesh Yadav		
06	Tejas Kolwankar		
07	Aesha Mahida	Runners up	VNPS'23 (2022-23)
08	Isha Kule		
09	Sanskruiti Sankhe		
10	Aniket Khanjode	Runners up	VNPS'23 (2022-23)
11	Prem Bhanushali		
12	Ruchita Gaikwad		
13	Chirag Sankhe	Runners up	18th Avishkar (2023-24)
14	Nihal Madvi		
15	Ruchi Gharat		

STUDENT'S ACHIEVEMENTS (TECHNICAL EVENTS)

No.	Names	Rank	Event
16	Abhishek Jani	Winners	Smart India Hackathon 23 (2023-24)
17	Anish Dalvi		
18	Manaswi Jadhav		
19	Vaishnavi Deokar		
20	Vishal Gupta		
21	Zaid Khan		
TE's			
22	Aman Yadav	Runners up	VNPS'23 (2022-23)
23	Kedar Malap		
24	Rakesh Zore		
25	Shobhit Kumar Singh		
26	Aditya Shah	Runners up	Code-o-fiesta (2023-24)
27	Karan Gandhi		
28	Rehman Khan		
29	Sahil Chalke		

STUDENT'S ACHIEVEMENTS (TECHNICAL EVENTS)

No.	Names	Rank	Event
30	Abhay Upadhaya	Runners up	Avalon Innov8 2.0 (2023-24)
31	Aditya Shah		
32	Karan Gandhi		
33	Sahil Chalke		
34	Aditya Shah	Runners up	Bhausahab Vartak Hackathon (2023-24)
35	Meet Dodiya		
36	Rehman Khan		
37	Saurabh Rana		
38	Aditya Shah	Winners	Coherence 1.0 (2023-24)
39	Aditya Singh		
40	Sahil Chalke		
41	Satyam Sharma		
SE's			
42	Aditya Shah	Winners	VNPS'23 (2022-23)
43	Karan Gandhi		
44	Rehman Khan		
45	Sahil Chalke		

STUDENT'S ACHIEVEMENTS [CULTURAL & SPORTS EVENTS]

No.	Names	Year	Rank	Event
01	Omkar Jadhav	BE	Winners	Clay Modelling (EBSB)
02	Sangini Shetty	SE	Winners	Solo Dance (Zeal'24)
03	Aditi Gupta	SE	Winners	Group Dance (Zeal'24)
04	Bhumi Kamble			
05	Pranali Rane			
06	Sangini Shetty			
07	Omkar Jadhav	BE	Runners up	Duet Dance (Zeal'24)
08	Riddhi Chavda	BE	Best Speaker	Face-off 11
09	Aarchy Parekh	SE	Winner (Class wise)	Cricket (Avahan'24)
10	Khushi Machhi			
11	Riteeka Gawand			
12	Sangini Shetty			
13	Shreya Kathe			
14	Siddhi Chavan			

STUDENT'S ACHIEVEMENTS [CULTURAL & SPORTS EVENTS]

No.	Names	Year	Rank	Event
15	Sahil Shah	SE	Runners up	Badminton Men's Doubles
16	Shreyas Pathe	SE		
17	Shreyas Pathe	SE	Runners up	Badminton Men's Singles
18	Sangini Shetty	SE	Runners up	Badminton Mixed Doubles
19	Shreyas Pathe	SE		
20	Abhishek Jani	BE	Runners up	Badminton Departmental
21	Sahil Shah	SE		
22	Sangini Shetty	SE		
23	Shreyas Pathe	SE		
24	Vaishnavi Deokar	BE		
25	Vaishnavi Dungawat	TE		
26	Shreyas Pathe	SE		
27	Kishor Madane	SE	Runners up	Enertia (Thakur College)
28	Pratik Patil	SE		

STUDENT'S ACHIEVEMENTS [CULTURAL & SPORTS EVENTS]

No.	Names	Year	Rank	Event
29	Aarchy Parekh	SE	Winners	Cricket Girls Departmental
30	Khushboo Mishra	TE		
31	Khushi Macchi	SE		
32	Riteeka Gawand	SE		
33	Shravani Gavli	BE		
34	Siddhi Chavan	SE		
35	Aashlesha Rajput	BE	Runners up	Throwball Girl's Departmental
36	Aditi Khambe	BE		
37	Khushboo Mishra	TE		
38	Pallavi Thakur	BE		
39	Ruchi Gharat	BE		
40	Shravani Gavli	BE		
41	Siddhi Kolwankar	BE		
42	Vaishnavi Deokar	BE		
43	Vaishnavi Dungawat	TE	Winners	Girl's Table Tennis Singles
44	Vaishnavi Dungawat	TE		

STUDENT'S ACHIEVEMENTS (CULTURAL & SPORTS EVENTS)

No.	Names	Year	Rank	Event
45	Aarchy Parekh	SE	Runners up	Girl's Departmental Kabaddi
46	Aditi Khambe	BE		
47	Khushi Machhi	SE		
48	Pallavi Thakur	BE		
49	Priyanka Gaikwad	SE		
50	Shravani Gavli	BE		
51	Shreya Kathe	SE		
52	Aarchy Parekh	SE	Runners up	Girl's Departmental Tug of War
53	Aditi Khambe	BE		
54	Pallavi Thakur	BE		
55	Riteeka Gawand	SE		
56	Shravani Gavli	BE		
57	Shruti Lawand	TE		
58	Prathamesh Mayekar	TE	Winners	Choose your Anime (Litfest'24)
59	Manaswi Jadhav	BE	Runners up	Spelling Bee (Litfest'24)

PLACEMENT 23-24

Sr. No	Company Names	Offers
1	Neebal Technologies	8
2	Cloudfronts	1
3	Zeus Learning	2
4	Bristlecone	10
5	Dear Digital	3
6	Arcon	2
7	Media.net	2
8	Quantum Phinance	2
9	Godrej Infotech	1
10	Mastek	1
Total		32*

TOPPER'S LIST 22-23

BE		
SR NO.	NAME OF THE STUDENTS	CGPI
1	KADAM AADITI SARJERAO	9.37
2	KOLWANKAR TEJAS JEEVAN	9.27
3	VEDANT RAJESH SANKHE	8.96
4	MULLA INSHA AFAQUE	8.85
5	VARTAK VIDITI VIJENDRA	8.76

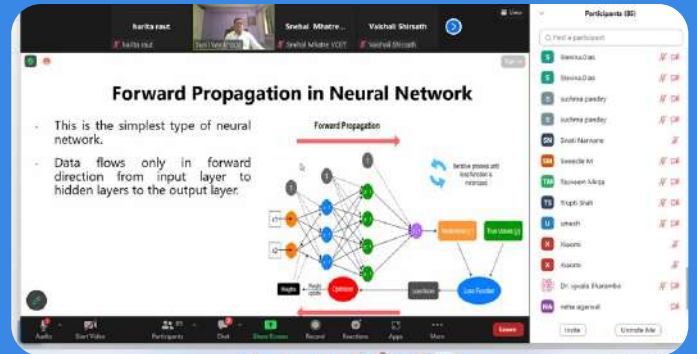
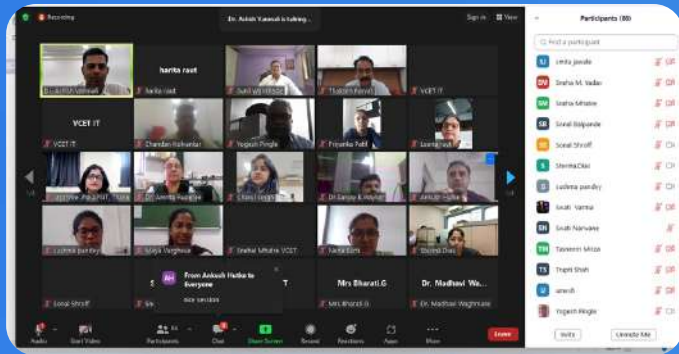
TE		
SR NO.	NAME OF THE STUDENTS	CGPI
1	SINGH SHOBHIT	8.77
2	ABHISHEK JANI	8.64
2	ZAID KHAN	8.64
3	MALAP KEDAR	8.53
4	JADHAV OMKAR	8.52
5	VATSAL SHAH	8.40

SE		
SR NO.	NAME OF THE STUDENTS	CGPI
1	DODIYA MEET	8.7
2	GHARAT SHRUTI	8.66
3	MAURYA AKASH	8.48
4	SHAH HARSHI	8.47
5	SIMA GUPTA	8.41

**DEPARTMENT OF
INFORMATION TECHNOLOGY**

EVENT PICTURES

FACULTY ONLINE STTP ON "EXHILARATING SOCIO-HUMAN LIFE USING DEEP LEARNING"



VCET HACKATHON '23



ELIXIR'23



INDUSTRIAL VISIT



**Industry Visit of Second Year Engineering Students
at Maharashtra State Power Generation, Uran.**

VNPS'23



CORE CODING COMMITTEE (C3)



ZEAR'24



AVAHAN'24



OTHER ACHIEVEMENTS



**Pratik Patil and Kishor Madane
(SE-IT) Cricket Runner up
Enertia(Thakur College)**



**Kishor Madane (SE IT)
MU inter zonal wrestling
competition 65kg second price**



**Aniruddha Rawool
Second prize in Carrom Doubles
at IISM, Andheri.**



**Riddhi Chavda (BE-IT)
Best Speaker, Face-off 11
VCET**



**Manaswi Jadhav(BE-IT)
Runner-up, Spelling Bee**



**Smart India Hackathon 2023
Winners at Nagpur**

OTHER ACHIEVEMENTS



Avalon Innov8 2.0
Runner up



VCET Hackathon'23
Runner up



18th Avishkar
Runner up



Code-o-fiesta
Runner up



Coherence 1.0
Winners



Bhausahab Vartak Polytechnic
Hackathon Runner up



Vidyavardhini's College of Engineering and Technology, Vasai(W).
For internal circulation only. Not for sale.