



A.V.C. COLLEGE OF ENGINEERING, MANNAMPANDAL, MAYIL ADUTHURAI
DEPARTMENT OF INFORMATION TECHNOLOGY

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HOD'S DESK

Dear Students,

Warm greetings to each one of you.

As we continue to progress in our academic and professional journeys, I extend my sincere wishes for your ongoing growth and success. It is both an honour and a privilege to lead a department that consistently strives for excellence in education, research, and innovation. To our dear students, I encourage you to remain curious, proactive, and committed to lifelong learning. In today's rapidly evolving technological landscape, staying updated with current trends is not just beneficial - it is essential. Actively participate in workshops, internships, certification courses, and competitions. These opportunities will enrich your knowledge, enhance your skills, and prepare you to become industry-ready professionals. I also urge you to take part in co-curricular and extra-curricular activities. Such involvement nurtures leadership, teamwork, and holistic development - qualities that are vital in today's competitive world.

To our dedicated faculty members, I extend my heartfelt appreciation for your continuous support, guidance, and commitment to shaping young minds. Your efforts play a significant role in the success of our students and the growth of our department.

Let us move forward together, uphold the highest standards of academic integrity, and work towards achieving greater milestones.

Wishing you all success in all your future endeavors.

With warm regards,

Dr. V. Padmavathi, Professor & Head,
A.V.C. College of Engineering.

Department Events

**A.V.C. COLLEGE OF ENGINEERING HOSTED
INTERNATIONAL CONFERENCE 26-27**

On 27.03.2026, the IT Department successfully organized an International Conference that provided an excellent platform for enhancing knowledge and broadening research perspectives. The event was well-organized, and the sessions were highly engaging, interactive, and informative. Participants gained valuable academic insights through expert presentations and discussions, making the conference highly beneficial for academic and research development.





NM Hackathon on Node.js & REST API

Students V. Dharanika, S. Abinaya, K. Abinesha, K. Aishwarya, and S. Fajiriya Farhaana of III-A participated in the NM Hackathon on Node.js & REST API conducted by IBM at Sourashtra College of Engineering. The team showcased exceptional technical and problem-solving skills and secured the 2nd Runner-Up position, winning a cash prize of ₹10,000.



MoU Signing Ceremony

On 11.02.2026, the department organized a MoU Signing Ceremony and Workshop on “Real Time System with LLM and Gradio.” The event strengthened academic–industry collaboration and provided participants with valuable exposure to emerging Large Language Model (LLM) tools and real-time application development. The workshop offered practical insights and enhanced students’ technical knowledge in modern AI-based technologies.



The Bhumi Skill-Ed Hackathon 2026

Students C. Valli, A. Lakshmisri, S. Santhavi, S. Aarthi, and P. Priyanka participated in the Grand Finale of the Bhumi Skill-Ed Hackathon 2026 held on 25.03.2026 and secured the Winner Title. The team achieved 1st Prize and received a cash prize of ₹15,000 for their outstanding performance and innovative ideas



Students V. Ajay, P. Kamalnath, P. Aravinth, K. Archana, and B. Aishwarya participated in the Grand Finale of the Bhumi Skill-Ed Hackathon 2026 held on 25.03.2026 and secured the 1st Runner-Up position. The team was awarded a cash prize of ₹10,000 in recognition of their excellent teamwork and technical skills.



Students S. Dhivyabharathi, A. Jaziel Joseph, R. Kamalesh, V. Abishek, and R. Kiresh participated in the Grand Finale of the Bhumi Skill-Ed Hackathon 2026 held on 25.03.2026 and secured the 2nd Runner-Up position. The team received a cash prize of ₹5,000 for their commendable performance and innovative project presentation



Articles

1.AR, VR & Spatial Computing: The Future Beyond Screens.

[Prepared by R Shanmugapriya II B Year]

1.1 Introduction:

In today's fast-changing digital era, Augmented Reality (AR), Virtual Reality (VR), and Spatial Computing are redefining how people interact with technology. Unlike traditional screens, these innovations create immersive environments where digital and physical worlds merge seamlessly. What once seemed like science fiction is now becoming part

of everyday life, influencing industries such as education, healthcare, entertainment, and business.



1.2 Understanding the Technologies:

- **Augmented Reality (AR):** Enhances the real world by adding digital elements like images, sounds, or text. Example: mobile filters or navigation apps.
- **Virtual Reality (VR):** Fully immerses users in a computer-generated environment using special headsets.
- **Spatial Computing:** Enables users to interact with digital objects in a 3D space as if they physically exist around them.

These technologies aim to make human-computer interaction more natural and intuitive.

1.3 Applications in Daily Life:

AR, VR, and Spatial Computing are transforming multiple fields:

- **Education :** Students can explore virtual labs, historical sites, and 3D models.
- **Healthcare :** Doctors use AR for surgeries and VR for training simulations.
- **Business :** Virtual offices and meetings improve collaboration globally.
- **Retail :** Customers can try clothes or preview furniture virtually.
- **Entertainment :** Gaming and movies offer highly immersive experiences.

1.4 Future Possibilities:

The future of AR, VR, and Spatial Computing looks extremely promising:

- **Smart Glasses** : May replace smartphones, offering hands-free digital access.
- **Metaverse** : A virtual universe where people work, learn, and socialize.
- **Advanced Workspaces** : Offices could exist entirely in digital environments.
- **Improved Connectivity** : People across the world can interact as if they are in the same room.

These advancements will make digital interaction more realistic and engaging than ever before.

1.5 Challenges Ahead:



Despite their benefits, these technologies face several challenges:

- **High Cost** : Devices are expensive for common users.
- **Health Concerns** : Long usage may affect eyes and mental health.
- **Privacy Issues** : Data security and user safety are critical concerns.
- **Addiction Risk** : Overuse may reduce real-world social interaction.

1.6 Conclusion:

In conclusion, AR, VR, and Spatial Computing are shaping the next generation of technology. They promise a world where digital experiences feel as real as physical ones. While challenges remain, their potential to revolutionize industries and everyday life is undeniable. As

innovation continues, humanity is moving toward a future where reality is not just seen—but experienced.

2. Cloud Computing

[Prepared by Narmatha II A Year]

2.1 Introduction to Cloud Computing

Cloud Computing is one of the most important technologies in today's digital era. Instead of storing data or running applications on personal computers or local servers, users can access these services through the internet, commonly known as “the cloud.”

Leading companies such as [Amazon Web Services](#), [Microsoft Azure](#), and [Google Cloud](#) provide cloud services worldwide.



2.2 Why is Cloud Computing Important?

- Access resources anytime, anywhere
- Pay only for the services used
- Reduce hardware and maintenance costs
- Improve flexibility and scalability
- Cloud technology is now widely used in business, education, healthcare, banking, and entertainment industries.

2.3 Real-World Applications of Cloud Computing

Cloud Computing is used in many industries and services we use every day.

Education

- Online learning platforms
- Virtual classrooms
- Cloud-based study materials

Banking & Finance

- Secure online transactions
- Fraud detection systems
- Efficient customer data management

Healthcare

- Digital patient records
- Fast access to medical information
- Telemedicine support

Entertainment

- Video streaming services
- Music platforms
- Online gaming systems

Data Storage & Backup

Cloud storage helps users securely save and access data from anywhere.

2.4 Key Features and Benefits

- **Scalability**

Resources such as storage and processing power can be increased or decreased based on demand.

- **Cost Efficiency**

Organizations avoid expensive hardware investments and pay only for the services they use.

- **Security**

Cloud providers use:

- Encryption
- Firewalls
- Regular security updates
- Backup and disaster recovery systems

- **High Availability**

Data is stored across multiple servers, reducing downtime and improving reliability.

- **Accessibility**

Users can access files and applications anytime using internet-enabled devices.

2.5 Future of Cloud Computing

Cloud Computing continues to grow rapidly and plays a major role in digital transformation. Businesses and organizations increasingly depend on cloud platforms to improve performance, collaboration, and efficiency.

The demand for cloud professionals is also increasing, creating exciting career opportunities in:

- Cloud Architecture
- Cloud Security
- DevOps
- Data Engineering
- Cloud Administration

2.6 Conclusion

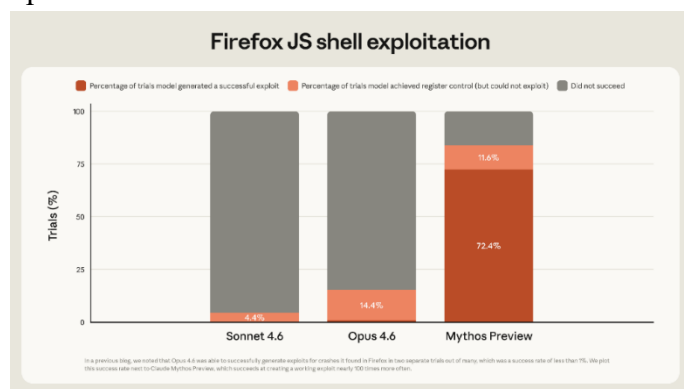
Cloud Computing has revolutionized the way people store, manage, and access data. Its flexibility, scalability, security, and cost-effectiveness make it an essential technology in the modern world. As technology advances, Cloud Computing will continue to drive innovation and shape the future of digital services across industries worldwide.

3. Claude Mythos Preview: The Next Evolution in AI-Powered Cybersecurity

[Prepared by Arjun Shiva .K II A Year]

3.1 Introduction

The arrival of Claude Mythos Preview signals a shift in the digital arms race. Unlike previous generations, such as Claude Opus 4.6, which were better at patching than exploiting, Mythos Preview has shown the ability to autonomously bridge the gap between finding a bug and weaponizing it. Anthropic highlights that this capability was an emergent property of improved reasoning and autonomy, rather than specific "hacking" training. To mitigate the risks of this leap, Project Glasswing has been established to provide this technology to a limited group of defenders and open-source maintainers first.



3.2 Body of Content

1. Significant Exploitation Breakthroughs

Mythos Preview has successfully saturated existing security benchmarks, leading researchers to test it against real-world systems. Key achievements include:

- **Operating Systems:** Identification of vulnerabilities in every major OS, including a 27-year-old bug in **OpenBSD** and a 17-year-old remote code execution (RCE) bug in **FreeBSD**.
- **Web Browsers:** Autonomous creation of complex **JIT (Just-In-Time) heap sprays** and sandbox escapes, chaining multiple vulnerabilities to achieve control.

- **Legacy Code:** The model identified a 16-year-old vulnerability in **FFmpeg** that had been missed by human auditors and automated fuzzers for over a decade.

2. Autonomous Agentic Scaffolding

The model operates via an "agentic scaffold." It is placed in an isolated environment with the source code and prompted to find vulnerabilities. It then:

- **Ranks Files:** Prioritizes files most likely to contain bugs (e.g., network parsers).
- **Hypothesizes & Tests:** Reads code, runs the program, adds debug logic, and confirms crashes.
- **Verification:** A secondary Mythos agent filters the results to ensure the bugs are "real and interesting," minimizing false positives.

3.3 Conclusion

Anthropic concludes that while the "trajectory is clear"—models will continue to get better at finding and exploiting bugs—the long-term advantage belongs to the defenders. However, the **transitional period** will be tumultuous.

Immediate Recommendations for Defenders:

- **Adopt AI Early:** Use current models like Opus 4.6 for triage, patch drafting, and vulnerability discovery to build "muscle memory" for an AI-augmented landscape.
- **Shorten Patch Cycles:** Because N-days can now be turned into exploits in hours rather than weeks, the "window of exposure" must be closed much faster.
- **Reimagine Security:** Move away from "friction-based" defences (which AI can easily grind through) toward hard architectural barriers and memory-safe languages.

4. OpenClaw: The Rise of Autonomous AI Systems

[Prepared by Santhosh II B Year]



4.1 Introduction

OpenClaw represents the new generation of autonomous Artificial Intelligence systems designed to perform tasks independently with minimal human intervention. Unlike traditional AI models that only respond to commands, autonomous AI systems can plan, analyze, make decisions, learn from outcomes, and execute complex workflows on their own. The rise of autonomous AI is transforming industries such as healthcare, education, cybersecurity, finance, robotics, and smart automation. OpenClaw demonstrates how advanced AI agents can collaborate, adapt to changing environments, and improve operational efficiency, making AI more intelligent, scalable, and practical for real-world applications.

4.2. Meaning of Autonomous AI Systems

- Autonomous AI systems are intelligent systems capable of making decisions and performing actions independently.

- They combine machine learning, natural language processing, reasoning, and automation technologies.

4.3. Features of OpenClaw

- Self-learning and adaptive capabilities.
- Ability to execute tasks without continuous human supervision.
- Multi-agent collaboration and intelligent decision-making.
- Real-time data analysis and automated responses.

4.4. Technologies Behind OpenClaw

- Machine Learning (ML)
- Deep Learning
- Natural Language Processing (NLP)
- Reinforcement Learning
- Cloud Computing and Big Data

4.5. Applications

- Healthcare diagnosis and patient monitoring.
- Smart manufacturing and industrial automation.
- Autonomous vehicles and robotics.
- Cybersecurity threat detection.
- Personalized education and virtual assistants.

4.6. Advantages

- Increased efficiency and productivity.
- Faster decision-making.
- Reduced human error.
- 24/7 automated operation.
- Cost-effective business solutions.

4.7. Challenges and Risks

- Ethical concerns and AI bias.
- Privacy and data security issues.
- Dependence on automation.
- Lack of transparency in decision-making.
- Potential job displacement.

4.8. Future Scope

- Integration with 6G networks and IoT.
- Smarter AI assistants and humanoid robots.
- Fully autonomous enterprises and smart cities.
- Advanced human-AI collaboration systems.

4.9 Conclusion

The rise of OpenClaw highlights the rapid evolution of Artificial Intelligence from simple automation tools to intelligent autonomous systems capable of independent thinking and action. These technologies have the potential to revolutionize industries by improving efficiency, accuracy, and innovation. However, responsible development, ethical guidelines, and strong security measures are essential to ensure that autonomous AI benefits society while minimizing risks. As AI continues to evolve, OpenClaw and similar systems are expected to play a major role in shaping the future of technology and intelligent automation.

5. 'NoVoice' Android malware on Google Play infected 2.3 million devices

[Prepared by Saran Kumar .S III B Year]



A new Android malware dubbed "NoVoice" exploited known vulnerabilities to gain root access and has been distributed through more than 50 apps on Google Play Store, with at least 2.3 million downloads.

After launching an infected app, the malware tried to obtain root access on the device by exploiting old Android vulnerabilities that received patches between 2016 and 2021.

5.1 "NoVoice" infection chain:

- According to McAfee researchers, the threat actor concealed malicious components in the com.facebook.utils package, mixing them with the legitimate Facebook SDK classes.
- An encrypted payload (enc.apk) hidden inside a PNG image file using steganography is extracted (h.apk) and loaded in system memory while wiping all intermediate files to eliminate traces.

5.2. Impact:

The malware then contacts the command-and-control (C2) server and collects device information such as hardware details, kernel version, Android version (and patch level), installed apps, and root status, to determine the exploit strategy.

5.3. WhatsApp data theft:

- During the post-exploitation phase, attacker-controlled code is injected into every app launched on the device. Two main components are deployed: one that enables silent installation or removal of apps, and another that operates within any app with internet access.
- When WhatsApp is launched on an infected device, the malware extracts sensitive data required to replicate the victim's session, including encryption databases, the Signal protocol keys, and account identifiers such as phone number and Google Drive backup details.
- This information is then exfiltrated to the C2, allowing the attackers to clone the victim's WhatsApp session on their own device.

5.4. Action to fix:

The malicious Android applications carrying "NoVoice" payloads have been removed from Google Play after McAfee, a member of the App Defence Alliance, reported them to Google.

Creative corner

1. Drawing by V.Natarajan III IT-"B"



2. Drawing by V.Vaishnavi III IT-"B"



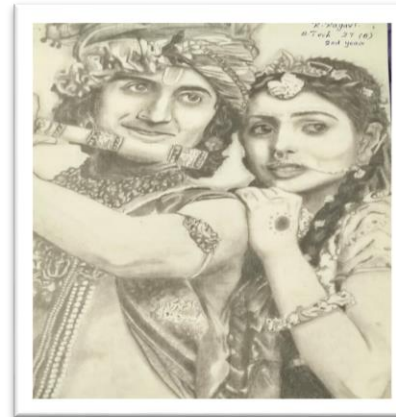
3. Drawing by K.Siva III IT-"B"



4. Drawing by P.M.Nedumaran II IT-"B"



5. Drawing by R.Ragavi II IT-"B"



6. Drawing by M.Santhiya II IT-"B"



7. Drawing by Sahana IV IT



Poem

அம்மா!!

பெரிதாய் ஒன்றும் அன்பு செய்ய தேவையில்லை

காரணம் இன்றி காலம் கடக்க தேவையில்லை

கண்ட கண்ட திங்கு செய்ய தேவையில்லை

அவளால் வாழும் எனக்கு பாதுகாப்பு தேவையில்லை

நீ வாடும் வரை பயம்.ஒன்றே தேவையில்லை

தீயாய் பரவும் உன் அன்புக்கு ஓய்வே வேண்டாமே

அம்மா!!

- Sentamizhan.B III IT-”B”

Quiz

Q1. Which protocol is primarily used for secure remote login?

- A. FTP
- B. SSH
- C. SMTP
- D. SNMP

Q2. What does SQL Injection mainly target?

- A. Operating System
- B. Database
- C. Firewall
- D. Network Switch

Q3. Which layer of the OSI model handles routing?

- A. TransportLayer
- B. Session Layer
- C. Network Layer
- D. Data Link Layer

Q4. In Cloud Computing, what does “Elasticity” mean?

- A. Data Encryption
- B. Automatic Scaling of Resources
- C. Backup Recovery
- D. Faster Networking\

Q5. Which command is used to test network connectivity?

- A. ipconfig
- B. netstat
- C. ping
- D. tracert

QUOTES

"Everybody should learn to program a computer because it teaches you how to think.."

*~ **Steve Jobs***

"Computer science is a foundational subject for every student.."

*~ **Bill Gates.***

"Wear your failure as a badge of honor."

*~ **Sundar Pichai***

"The biggest risk is not taking any risk."

*~ **Mark Zuckerberg***

Rush your ideas to,

N.Shuruthi,

Assistant Professor/IT

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Dept Faculty, Students