



NEW HORIZON
COLLEGE OF ENGINEERING

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Department of Information Science and Engineering

ALUMNI TALK -ODD SEM (2024-2025)

Subject:Unlocking the Power of Large Language Models

Alumni name: Mr. M Mohamed Khalid

Audience: Sem Date: 15-11-2024(9:00AM-10:00 AM)

Alumni Talk: Unlocking the Power of Large Language Models

The Department of Information Science and Engineering organized an **Alumni Talk** on the topic “**Unlocking the Power of Large Language Models**” for the 5th-semester students on **15th November 2024**. The session was conducted offline under the supervision of the **ISE Head of Department, Dr. Vandana C. P.** The expert speaker, **Mr. Mohamed Khalid**, was invited to share his insights and experiences.

About the Speaker

Mr. Mohamed Khalid is an **Associate Software Engineer** at **Carelon Global Solutions India, Bangalore**. He has expertise in:
Programming: Python, MySQL

DevOps Tools: Jenkins, Docker, Kubernetes, Ansible, Git and GitHub, Terraform, Groovy, Maven

AI & Computer Vision: Developing applications like Mental Health Analysis and Morse Code Translator using Python and OpenCV

Blockchain Technology: Enhancing voting security, transparency, and integrity through Python and MySQL projects.

Sessions and Topics Covered



Introduction to Large Language Models (LLMs)

The talk began with an explanation of what Large Language Models (LLMs) are and their role in modern software engineering and development:

Definition: LLMs are advanced AI models trained on massive datasets to understand and generate human-like text.

Applications in Software Development:

Automating documentation generation for projects.

Simplifying complex code by providing explanations or suggestions.

Enhancing collaboration with AI-driven code reviews and pair programming.

Role of LLMs in DevOps

The speaker discussed how integrating LLMs with DevOps processes can improve efficiency:

Code Suggestions: LLMs like GitHub Copilot assist in writing and reviewing code more effectively.

CI/CD Pipeline Automation: Automating the writing of test cases and scripts for CI/CD pipelines.

Incident Management: Using LLMs to identify the root cause of incidents faster by analyzing logs and providing actionable insights.

Knowledge Management: LLMs can serve as internal knowledge repositories, enabling engineers to query the system for solutions to common problems.

The Evolution of DevOps: DevSecOps and AI Integration

The speaker expanded on the topics of DevOps, DevSecOps, and the integration of AI and LLMs:

Security in DevOps (DevSecOps):

Embedding security into every phase of the CI/CD pipeline.

Using LLMs for automated security scanning and vulnerability detection.

AI and ML in DevOps:

Predictive Analytics: Predicting potential system failures using ML algorithms.

Anomaly Detection: Leveraging AI to monitor system performance and detect irregularities.

Future of DevOps with LLMs

The speaker provided insights into how LLMs are shaping the future of DevOps:

Enhanced Collaboration: ChatGPT-like assistants to help teams communicate technical requirements and solutions.

Accelerated Learning: Training new team members by providing on-demand tutorials and code explanations.

Automated Documentation: Automatically generating accurate documentation from code comments and version history.



Key Benefits of Using LLMs

Improved Productivity: Reducing repetitive tasks such as writing boilerplate code or debugging common issues.

Better Decision-Making: Using LLMs to analyze patterns in codebase evolution and provide recommendations.

Increased Accessibility: Assisting non-experts in understanding technical documentation and code.

Additional Sessions on DevOps

Continuous Integration and Continuous Delivery (CI/CD)

Continuous Integration (CI): Merging code changes frequently with automated builds and tests.

Continuous Delivery (CD): Automating the deployment process for quicker releases.

Benefits of CI/CD:

Faster time to market

Improved code quality

Reduced risks

Shift to DevSecOps

Automated Security Testing: Using tools to detect vulnerabilities in real time.

Security as Code: Embedding security rules in CI/CD pipelines.



Students asked insightful questions, such as:

How can I start learning and working on DevOps?

What are the benefits of combining DevOps with AI?

Can AI fully replace DevOps practices in the future?

The speaker emphasized the following:

Start with learning CI/CD tools like Jenkins and Docker.

Gradually integrate AI tools to enhance productivity, but DevOps practices remain essential for managing pipelines and collaboration.

OUTCOME OF THE TALK

The students gained valuable knowledge about:

The applications of **Large Language Models** in software engineering and DevOps.

Emerging trends like **DevSecOps** and **AI-driven automation**.

Future opportunities in combining AI, ML, and DevOps for modern enterprises.

Class Teachers:

1.Mrs. Krishnaveni A

2.Mrs Neha Jadhav

3.Tamarai Selvi