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VIVEKANANDA INSTITUTE OF TECHNOLOGY

AN INSTITUTE OF JANATHA EDUCATION SOCIETY

Recognised by GOK, Affiliated to VTU, Approved by AICTE, New Delhi & Accredited by NAAC

Department of Information Science and Engineering

Five days Value added Certification Course on

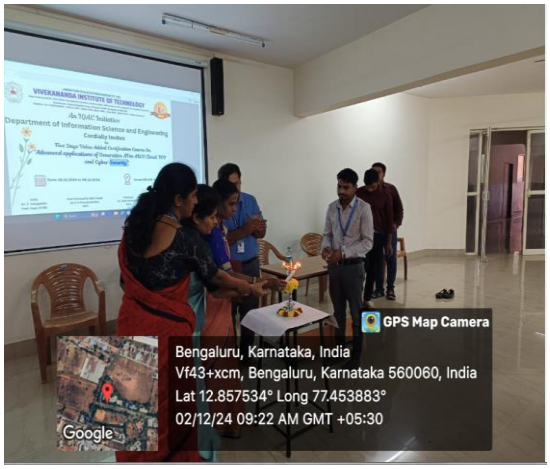
"Advanced applications of Generative AI in AWS cloud, IOT and Cyber Security"

DAY 1 : Generative AI in Cyber security

Morning session :

The session started by learning what is generative AI in cyber security. Generative AI in cyber security uses machine learning models to predict, simulate, and defend against evolving cyber threats. The Evolution of AI, what was the beginning of AI. In 2010 we had Alex Net, in 2014 Generative Adversarial Networks GANs, in 2016 Alpha go, 2018 GPT1, BERT and Graph Neural Networks, 2021 Alpha Fold 2, Dall E, 2022 Chat GPT and stable Diffusion, 2023 Generative AI. The key AI models are GPT(Generative Pre-trained Transformer), GANs (Generative Adversarial Networks), Transformers(General Architecture).

Cyber security is the practice of protecting computer systems and networks from digital attacks. These attacks can come in many forms, including viruses, malware, phishing scams, and ransom ware. Cyber security measures are designed to prevent, detect, and respond to these threats. The significance of cyber security has grown dramatically in recent years as more and more of our lives and businesses move online.



DAY 2 : Research methodology and Intellectual property Rights

Morning session:

Research methodology is a systematic approach to solving problems. It involves a series of steps, including:

1. **Problem Identification:** Defining the specific research question or problem.
2. **Literature Review:** Analyzing existing research to gain insights.
3. **Research Design:** Selecting appropriate research methods (e.g., surveys, experiments, case studies).
4. **Data Collection:** Gathering relevant data through various techniques (e.g., interviews, questionnaires, observations).
5. **Data Analysis:** Processing and interpreting the collected data.
6. **Conclusion and Recommendations:** Drawing conclusions based on the findings and suggesting solutions or further research.
   Intellectual Property Rights (IPR)

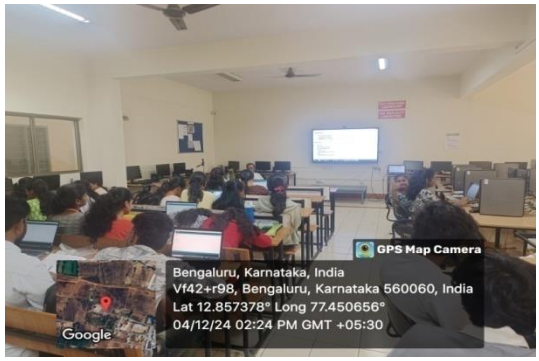
DAY 3: Generative AI in IOT

Morning session:

Generative AI and IoT, when combined, create a powerful synergy that can revolutionize various industries. This integration, often referred to as A IoT, opens up new possibilities for innovation and problem-solving.

A IoT applications

A IoT has diverse applications across various domains, including smart cities, transportation, healthcare, and more. In smart cities, A IoT enables the optimization of urban services, such as traffic management, waste management, and energy consumption. AIoT-powered traffic lights can regulate traffic flow based on real-time data, reducing congestion and improving road safety. Additionally, A IoT can be applied in healthcare for remote patient monitoring, personalized medicine, and efficient healthcare delivery. The combination of AI and IoT in AIoT opens up a world of possibilities, revolutionizing industries and improving the quality of life for individuals

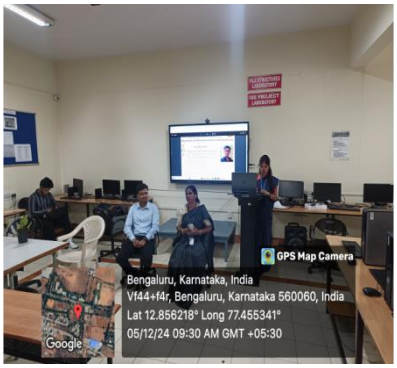


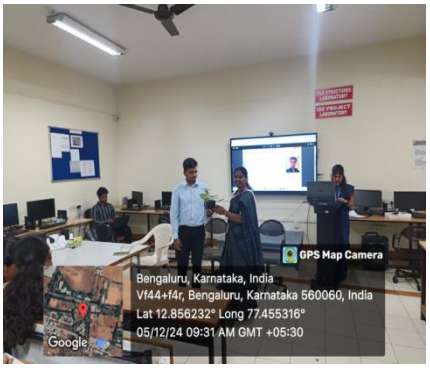
- **DAY 4 : Automation and DevOps Flexibility and Integration.**
  Morning session:
  How Websites Work: A Simplified Explanation :

Imagine a website as a digital house. To access this house, you need to know its address (the domain name) and use a specific tool (a web browser) to enter. Breakdown of how it works:

Domain Name: This is the human-readable address of a website (e.g., [invalid URL removed], facebook.com).It's translated into a numerical IP address by a Domain Name System (DNS).
Web Server:

A computer that stores website files, like HTML, CSS, and Java Script.It receives requests from browsers and sends back the requested files.
Web Browser: A software application (like Chrome, Firefox, or Safari) that interprets the received files and displays them on your screen





- **DAY 5: Generative AI using Large Language Models and Chat GPT.**
  Morning session:

  The Growing AI Competition: A Race for Innovation
  The field of artificial intelligence (AI) is experiencing rapid growth and intense competition among tech giants and startups alike.

This fierce competition is driving innovation, pushing the boundaries of AI capabilities, and reshaping industries.