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Department of Computer Science and Engineering

2024-25 Activities

Seminar on "**Artificial Intelligence and Machine Learning**"

Date: - 25-09-2024

Introduction

The one-day seminar on **Artificial Intelligence (AI) and Machine Learning (ML)** was held with the objective of introducing the key concepts, applications, and future potential of AI and ML technologies. These technologies are revolutionizing numerous industries, and the seminar aimed to provide a comprehensive understanding of their impact on society and businesses.

Seminar Agenda

The seminar was structured as follows:

- **AI and ML are reshaping industries**: From healthcare to autonomous vehicles, AI and ML have far-reaching applications.
- **Hands-on experience**: The practical session helped students understand how to apply machine learning techniques using popular programming languages like Python.
- **Ethics and Responsibility**: There is an increasing need to develop AI systems that are ethical, fair, and transparent.
- **Future Careers in AI/ML**: With the rapid growth of AI and ML, there are immense career opportunities in research, development, and application in these fields.

Q&A Session

- Engaging discussion with participants addressing various techniques-related queries.

Highlights

- The seminar provided a **detailed introduction to both Artificial Intelligence (AI) and Machine Learning (ML)**, covering fundamental concepts, key techniques, and real-world applications, ensuring that both beginners and those with prior knowledge could follow along.

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PRIYADARSHINI INSTITUTE OF SCIENCE AND TECHNOLOGY FOR WOMEN

(Approved by AICTE, New Delhi and Affiliated to JNTUH Hyderabad)

SaiPrabhath Nagar , Khammam Rural -507003, Khammam Dist., Telangana State.

Website: www.priw.ac.in   Email Id: jks_edu@yahoo.com Cell: +91-92466 25050.
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2. **Expert Speakers**: highlighted how AI is not just transforming industries but shaping the future of technology.

- **Interactive Discussions**: The Q&A session fostered lively interactions, allowing participants to delve deeper into specific topics.

Resource Person Details:

Dr.V.Sudarshan Rao
Professor
SCIT-KMM

Event Photo:
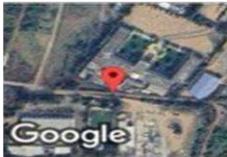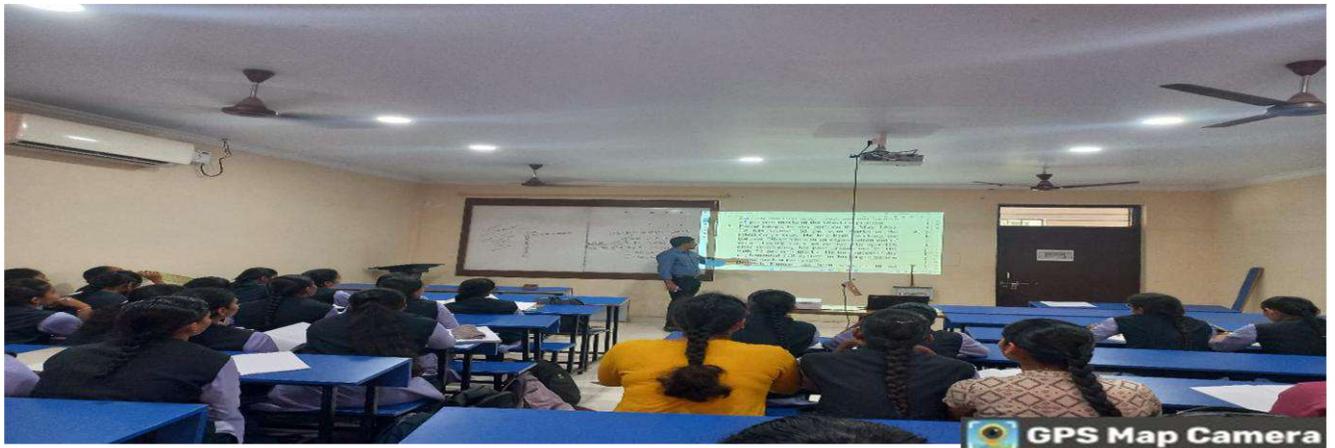
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Guest Lecture on "Cryptography & Network Security":- Asymmetric cryptography: RSA, Daffier-Hellman key exchange, public-key principles

Date: - 24-09-2024

Guest Lecture on "Asymmetric Cryptography: RSA, Diffie-Hellman Key Exchange, Public-Key Principles" A guest lecture on "Asymmetric Cryptography: RSA, Diffie-Hellman Key Exchange, Public-Key Principles" was conducted to provide students with in-depth insights into public-key cryptography systems that enable secure communication without prior key sharing. The session focused on core principles of asymmetric cryptography, including the use of mathematically related public and private key pairs, trapdoor one-way functions, and their role in solving key distribution challenges in symmetric systems. The resource person detailed RSA algorithm mechanics—prime factorization for key generation, modular exponentiation for encryption/decryption, and security reliant on the difficulty of factoring large primes. Diffie-Hellman key exchange was explained through discrete logarithm problems, enabling secure shared secret establishment over insecure channels, with extensions to ElGamal encryption. Students explored public-key infrastructure (PKI), digital signatures for non-repudiation, and hybrid cryptosystems combining asymmetric key exchange with symmetric encryption for efficiency. The speaker emphasized vulnerabilities like chosen ciphertext attacks, padding oracle exploits, and quantum threats (e.g., Shor's algorithm), urging adoption of post-quantum alternatives. The lecture was highly interactive, with live demos using OpenSSL for key generation and exchange, inspiring students to pursue certifications like CISSP and hands-on projects in secure protocol implementation. Priyadarshini Institute of Science and Technology for Women The Electronics and Communication Engineering (ECE) department of Priyadarshini Institute of Science and Technology for Women organized a hands-on lab session on asymmetric cryptography tools. The workshop reinforced lecture concepts through practical exercises in RSA key pair creation, Diffie-Hellman simulations, and signature verification using Python libraries like cryptography.io. Students implemented secure messaging prototypes and analyzed man-in-the-middle attack mitigations. Experts demonstrated real-world applications in HTTPS/TLS handshakes and blockchain consensus. A Q&A on emerging standards like elliptic curve cryptography (ECC) highlighted optimizations for IoT and mobile security.
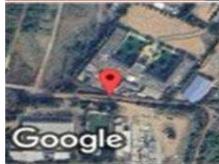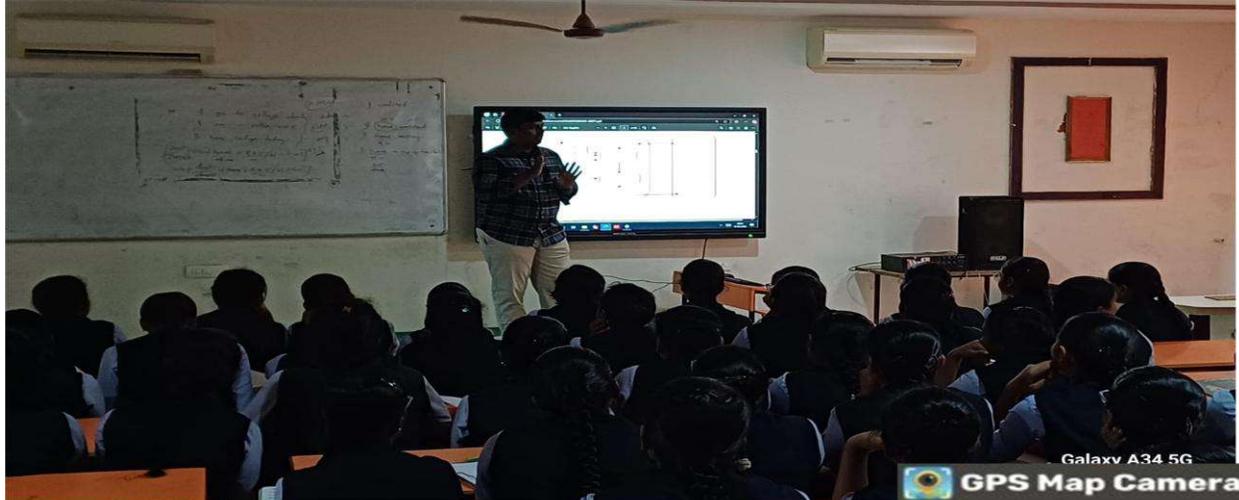
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Event Photo:

Khammam, Telangana, India
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Lat 17.240098°
Long 80.122158°
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