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A Report on the Sttp on "Cyber security Analytics: Leveraging Data Science for Threat Detection and Prevention"

Date of the Event	21.11.2024 and 22.11.2024
Title of the Event	Cyber security Analytics: Leveraging Data Science for Threat Detection and Prevention
Organized by	Dept. Of Computer Science and Engineering, MVJCE, Bangalore

The Department of Computer Science and Engineering of MVJCE was proud to host the STTP on "Cybersecurity Analytics: Leveraging Data Science for Threat Detection and Prevention." This seminar, conducted over two days, provided students with an in-depth understanding of integrating data science into cybersecurity. The event featured interactive sessions led by Mr. Sunil Gowda, Founder & Chief Data Scientist of Master Campus Academy, Bangalore. Held on 21st and 22nd November 2024, the seminar ran from 10:00 AM to 3:45 PM each day, with enthusiastic participation from students from Department of Computer Science Engineering of 3rd Semester around 150 students on 21-11-24 and 250 students on 22-11.24. The event aimed to equip attendees with knowledge of current trends, challenges, and career opportunities in the field of data science and cybersecurity analytics.

Day 1- 21.11.2024 - Morning session:

The session commenced with an insightful talk by **Mr. Sunil Gowda**, Founder & Chief Data Scientist at Master Campus Academy, Bangalore.

Key topics discussed included:

- **Evaluation of Data Science in the Last Decade:** An overview of how data science has evolved over the past 10 years, particularly in its application to cybersecurity.
- **Cybersecurity Development:** The intersection of data science and cybersecurity, highlighting the advancements and challenges.
- **Predictive Models for Spam Call Detection:** Insights into the development of models used to predict and manage spam calls.
- **Cloud Technology:** Discussion on cloud computing's significance and its role in enhancing cybersecurity measures.
- **Deep Learning Technology (2017-2019):** Applications and advancements in deep learning, particularly in threat detection.
- **Ethical Considerations in Data Science:** A discussion emphasizing the importance of ethics in the field of data science and its applications.
- **Current Trends and Future of Data Science:** Exploration of generative AI and its implications for cybersecurity analytics.
- **Career Paths in Data Science:** A detailed outline of opportunities in Tier 1, Tier 2, and Tier 3 companies, with examples such as Meta, Amazon, and Google.

The morning session concluded with an engaging question and answer session where students actively interacted with the speaker.



Fig 1-Speech about CyberSecurity Development

Afternoon session:

The afternoon began with an in-depth discussion on statistical tests applied to detect fraudulent transactions.



Fig2 - Discussion on statistical test

Key highlights included:

- **Fraud Detection Models:** Techniques and statistical tests used to identify and prevent fraudulent activities.
- **Interactive Q&A:** The session fostered an interactive environment, with students posing insightful questions about real-world applications and challenges in the field.



Fig 3-Interacting with Students

Day 2- 22.11.2024

The second day of the seminar on "*Cybersecurity Analytics: Leveraging Data Science for Threat Detection and Prevention*" was a highly engaging and hands-on experience.

In the **morning session**, participants worked on their laptops as guided by Mr. Sunil Gowda, who introduced them to platforms such as Kaggle, HackerRank, and LeetCode. These platforms were used to explore real-world challenges like the *Credit Card Fraud Detection Predictive Model*, enabling students to understand practical applications of data science in cybersecurity.

The **afternoon session** was focused on idea generation for building innovative projects. Mr. Sunil provided valuable suggestions and encouraged creativity among the participants. The session was interactive, with students actively discussing ideas and asking questions, making it an enriching and productive experience.

Outcome of the Event:

The seminar provided students with practical knowledge of cybersecurity analytics and data science applications. Participants gained hands-on experience with platforms like Kaggle and LeetCode and explored real-world challenges like fraud detection. The sessions fostered

creativity through project idea discussions and interactive engagement. Overall, the event inspired students to pursue innovative projects and careers in data science and cybersecurity.