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## Department of Computer Science and Engineering

## GDG Club Workshop: "Session on Machine Learning BOOTCAMP"

The GDG On Campus MVJCE Club organised a Workshop titled Machine Learning Bootcamp on May 6th 2026 (06/05/2025) from 01.30 PM to 3.30 PM at Seminar Hall 1.

The workshop aimed to introduce participants to the fundamentals of Machine Learning and provide hands-on experience using modern tools and techniques. The comprehensive session focused on building foundational understanding and practical exposure to Machine Learning concepts and workflows. Participants gained hands-on experience in model building, data preprocessing, and evaluation techniques using tools like Google Colab and Python libraries.

About Speaker

Members of the GDG conducted the workshop, and the On-Campus MVJCE team guided participants throughout the session with detailed explanations and practical demonstrations. Baswakiran Hattyal introduced the core concepts of Machine Learning and explained the differences between Artificial Intelligence, Machine Learning, and Deep Learning.

Asfan Firdaus conducted a session on data preprocessing techniques and familiarised participants with key Python libraries, including NumPy and Pandas.

Bharath Sai Karnati led the session on training and evaluating machine learning models. The speaker explained the working principles of Machine Learning models and demonstrated the implementation of Logistic Regression.

Event Overview

The "Session on ML BOOTCAMP" was organised to provide students with both theoretical knowledge and practical implementation skills in Machine Learning. The workshop began with an introduction to the session's objectives and an overview of the importance of Machine Learning in today's technology-driven world.

- Session 1 (Introduction to Machine Learning): The workshop commenced with an introductory session conducted by the GDG On Campus MVJCE team. The speakers welcomed the participants and provided an overview of the workshop's objectives and structure. Students were introduced to the importance of Machine Learning in today's technology-driven world and its growing applications across various industries. The session created interest among participants by highlighting how Machine Learning is transforming fields such as healthcare, finance, education, and automation.

  The speakers also explained the differences among Artificial Intelligence, Machine Learning, and Deep Learning, helping students understand the relationships among these emerging technologies. Real-world examples and practical use cases were discussed to make the concepts easier to understand and relatable for the participants.

- Session 2: Data Preprocessing and Tools: The second session introduced participants to essential Machine Learning tools and data preprocessing techniques. Students were guided through the usage of Google Colab, which served as the platform for practical implementation during the workshop. The speakers demonstrated how Python libraries such as NumPy and Pandas are used to handle and analyse datasets.

  Participants learned about different preprocessing techniques, including handling missing values, cleaning datasets, and encoding categorical variables. The session emphasised the importance of preprocessing in improving the quality and performance of Machine Learning models. Students actively participated in the hands-on activities and implemented preprocessing steps in Google Colab under the guidance of the speakers.

- Session 3: Model Training and Evaluation: The final session focused on Machine Learning model training, prediction, and evaluation techniques. Participants were introduced to the fundamentals of Machine Learning models and their working principles. The speakers demonstrated the implementation of Logistic Regression and explained how models are trained using functions such as fit() and how predictions are made using predict().

  The session also covered important evaluation metrics, including accuracy, precision, recall, F1 Score, and the confusion matrix. Concepts like overfitting, under-

fitting, and hyperparameter tuning were discussed to provide students with a deeper understanding of model optimisation. The workshop concluded with practical demonstrations and interactive discussions, allowing participants to apply the concepts they had learned throughout the session.

The session concluded with an interactive discussion and hands-on activities that allowed participants to apply the concepts learned throughout the workshop. The "Session on ML BOOTCAMP" organised by GDG On Campus MVJCE was highly informative and successfully provided students with a strong foundation in Machine Learning concepts and practical implementation techniques.

Through the workshop, participants gained valuable knowledge about data preprocessing, Machine Learning models, model training, prediction methods, and evaluation techniques using modern tools such as Google Colab and Python libraries. The event also helped students understand the real-world applications and significance of Machine Learning in various domains.

The enthusiastic participation and active involvement of students contributed greatly to the success of the workshop. Overall, the session served as an excellent learning platform and encouraged participants to explore the fields of Machine Learning and Artificial Intelligence further.
Total number of students attended: 100.

Report by:
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Figure 1: Coordinating Team

Figure 2: Session