

Dr. Mahalingam College of Engineering and Technology, Pollachi.
Office of Dean R&I
and
Department of Mechanical Engineering

Knowledge Sharing Session Report: Application of NumPy, Pandas, and Matplotlib in Data Science and Artificial Intelligence

On August 10, 2024, I, Mr. Sreejith S. Nair, Assistant Professor (SS) in the Department of Mechanical Engineering, conducted a knowledge-sharing session on the "Application of NumPy, Pandas, and Matplotlib in Data Science and Artificial Intelligence." The session, held from 2:00 PM to 4:30 PM, aimed to provide an understanding of how these powerful Python libraries can be utilized in modern data analysis and AI projects.

The session began with an overview of the significance of Artificial Intelligence, Machine Learning, and Data Science, followed by an introduction to NumPy. I highlighted NumPy's role as a critical tool for numerical computations in Python, explaining how it efficiently manages large arrays and matrices essential for performing complex mathematical operations in AI algorithms and data science workflows. Practical examples were provided to demonstrate the performance advantages of NumPy over traditional Python lists.



Glimpses of Knowledge Sharing Session

Next, I introduced Pandas, emphasizing its capabilities for data manipulation and analysis. The session covered key concepts of Pandas, including its powerful DataFrame structure, which simplifies handling and analyzing structured data. I demonstrated how Pandas can be used to clean, process, and transform datasets, making it an indispensable tool for data scientists and AI practitioners.

In the final segment, I explored the use of Matplotlib for data visualization, an essential component of data science and AI. Participants were shown how to create various types of plots, such as line graphs, bar charts, histograms, and scatter plots using Matplotlib. I emphasized the importance of data visualization for effectively communicating analytical insights and offered tips on customizing plots to enhance their clarity and impact.

The session was well-received by participants from other departments, including Computer Science and Information Technology, who appreciated the hands-on approach and practical insights. The knowledge shared during this session will undoubtedly support their future work in Data Science and Artificial Intelligence.

Poster of the event:

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An Autonomous Institution Since 2011
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Department of Mechanical Engineering

Cordially invites you for the
Knowledge Sharing Session on
"Application of NumPy, Pandas and Matplotlib in
Datascience and Artificial Intelligence"

NumPy

Pandas

Matplotlib

Mr. Sreejith S Nair

Assistant Professor (SS)
Mechanical Engineering
Dr. Mahalingam College of Engineering and Technology

Date: 10.08.2024 Time : 2.00 P.M. to 4.30 P.M. Venue:CAD/CAM Lab (C-217)

S. Prunkaveey

Dean R&I

[Signature]

Principal

--Sd--
Secretary