DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ACADEMIC YEAR (2024-2025) ODD SEMESTER

INNOVTIVE TEACHING

Name of Pedagogy Used:	**Flipped Classroom**
Branch/Year/Sem/Sec:	**CSE/II/III/C**
Subject Code/Subject Name:	**AD4351 - FOUNDATIONS OF DATA SCIENCE**
Topic:	**Matrix Operations Using NumPy**
Date/Period/Timing	**24.09.2024/8/1.00 PM TO 1.40 PM**
Description	*This report focuses on the application of this model to teaching matrix operations using the Python library NumPy, which is widely used for numerical computing in data science and machine learning. The report presents the structure of a flipped classroom setup, the practical problem used for in-class activities, and the outcomes of this approach.*
Problem Statement (In-Class Activity)	The following problem was given to students during the in-class session: 1. Create two matrices: `A` (3x2) and `B` (2x3). 2. Perform matrix multiplication of `A` and `B`. 3. Compute the transpose of the resulting matrix. 4. Verify if the transpose of the product is equal to the product of the transposes of `B` and `A`. This problem required students to apply their understanding of both matrix multiplication and matrix transposition, reinforcing their grasp of NumPy operations.

Photos

Students Feedback	**312423104124:** Concepts were based on numpy operations .The activity we did was new and made the students more interactive and attentive. *312423104145:* The class today we had was about numpy operations, It was quite interesting and innovative and learned new methods in numpy.
Total No. of Students	**64**
No. of Students Present	**62**
No: of Students Absent	**02**
Action Plan for Absentees	Planned to provide the study material to the absentees for self-learning and clarify the doubts thereafter.

Conclusion

The flipped classroom model proved to be an effective method for teaching matrix operations using NumPy. By shifting the learning of theoretical concepts outside the classroom and focusing on practical problem-solving during class, students were able to gain a deeper understanding of both the theory and application of matrix operations in NumPy. By implementing the flipped classroom approach for matrix operations using NumPy, students demonstrated a stronger grasp of numerical computing concepts, laying the groundwork for more advanced data science topics in the future.

24/09/24

Faculty In-charge

[SUNDARABABU. MADDU]

HOD/CSE

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