

TISYA VAIDYA

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EDUCATION

The Pennsylvania State University, University Park
Bachelors in Computational Data Science
Minor 1: Mathematics, Minor 2: Statistics

Aug 2021 – May 2025
GPA:3.22

WORK EXPERIENCE

Learning Assistant | Pennsylvania State University

Aug 2023- present

- Assisted in **CMPSC 221: Object Oriented Programming with Web-Based Applications**, supporting students in understanding concepts.
- Collaborated with the professor and TAs to refine course content, ensuring it met students' specific needs effectively.
- Graded exams, assignments, projects, and homework, ensuring accurate and fair evaluation of student performance.

Research Assistant | Pennsylvania State University

May 2024- Aug 2024

- Collaborated with Dr. Nilanjan Ray Chaudhuri to conduct research focused on improving the robustness of Recursive Least Squares (RLS) models in MATLAB.
- Developed and tested methodologies to reduce the impact of outliers on RLS model performance, contributing to more accurate and reliable model outputs.

Generative Artificial Intelligence Intern | LTI Mindtree

May 2024- Jul 2024

- Advanced Image Generation:** Conducted research and implemented cutting-edge image generation techniques using models like DALL-E and Gemini, creating high-resolution 3D images while ensuring top-notch quality and accuracy.
- Instruction-Based Image Editing:** Analyzed research papers and contributed to the development and testing of code for instruction-based image editing, significantly enhancing image manipulation capabilities.
- Background Removal:** Successfully implemented and tested background removal functionality using Microsoft Azure AI services, delivering efficient and effective results.
- Web Scraping Automation:** Developed and optimized web scraping scripts to extract product details from eBay using frameworks like Scrapy, BeautifulSoup, and Selenium, streamlining the data collection process.

Data Science Intern | Tata Consultancy Services

Jun 2023 – Jul 2023

- Utilized BW4 HANA and Google Looker to convert raw client data in Excel into easily accessible and clean data, ensuring data integrity and accuracy.
- Conducted thorough data analysis and performed data cleansing activities to eliminate inconsistencies and errors, enhancing the overall quality of the data.
- Developed a front-end software solution utilizing SAP Appgyver platform and through collaborative efforts seamlessly integrated the front end with back-end.

Facilitator | Women in Engineering Program

Aug 2022 - Present

- Developed, implemented, and delivered engaging lesson plans tailored to the CMPSC 131 Python curriculum.
- Adapted assignments, exercises, and assessments to enhance student learning and exam readiness, ensuring alignment with course objectives and student needs.

PROJECTS

Enhancing Hate Speech Detection Through Multi-Model Ensembles (Python, LLM, Deep Learning)

Dec 2024

- Developed a hate speech detection system by integrating transformer models (BERT and RoBERTa), ensemble techniques, and innovative preprocessing methods to significantly enhance performance on Davidson 2017 dataset.
- Designed a robust preprocessing pipeline with negation handling, lemmatization, and contextual text normalization, improving nuanced text representation.
- Outperformed baseline models like logistic regression and standalone transformers by achieving an accuracy of 93%.

FIFA Player Performance Prediction (R, Machine Learning)

May 2024

- Explored ethical considerations such as bias, fairness, and privacy in the context of player performance prediction using a dataset from SoFIFA.com and also performed data cleaning, handled missing values, and converted categorical data.
- Developed a Linear regression model to predict FIFA player performance, analyzing player attributes to provide insights into their impact on virtual gameplay.

Course Scheduler (Java, Apache Netbean)

May 2023

- Designed and implemented a course scheduling software to facilitate seamless scheduling for two types of users: admin and students.
- Developed admin functionalities to set up and manage the database, streamlining course scheduling processes by semester.
- Enabled students to schedule courses hassle-free by building an intuitive user interface and backend logic.

SKILLS

- Developer Tools: MATLAB, Azure, DallE, Gemini, Microsoft Excel, Google Looker, SAP BW4 HANA, SAP Appgyver, SQL
- Areas of Expertise: Machine Learning, Artificial Intelligence, Data Structures and Algorithms, Web Scraping, Natural Language Processing
- Programming Languages, Database: Python,, NoSQL, MySQL, NoSQL, MongoDB
- Libraries: NumPy, Scikit-learn, TensorFlow, PyTorch, Matplotlib, Keras, Pandas