Tisya Vaidya

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Education

Uppsala University — Uppsala, Sweden
M.S. in Data Science – Machine Learning and Statistics — *Aug. 2026 – Jun. 2028*

The Pennsylvania State University — University Park, USA
B.S. in Computational Data Science, Minors in Mathematics and Statistics (GPA: 3.24/4) — *Aug. 2021 – May 2025*

Experience

Data Science Intern — Jun. 2026 – Aug. 2026
Digital Ipsum Pvt. Ltd. — *Remote*

- Developed a data-driven therapist–client matching system, designing the matching logic and integrating personalized recommendations into the company's website
- Developed a machine learning model to analyze and predict digital marketing campaign ROI, applying data preprocessing, exploratory analysis, feature selection, and model evaluation

Applied Researcher – Autonomous Vehicles — Jan. 2025 – May 2025
PSU Autonomous Vehicle Team (AVT) — *University Park, USA*

- Researched stereo visual odometry techniques for GNSS-denied navigation
- Developed feature extraction, pose estimation, and trajectory reconstruction algorithms using OpenCV, Python, and ROS
- Implemented visual odometry pipelines with FLIR Blackfly S stereo cameras for depth mapping and trajectory reconstruction
- Documented findings to support future advancements in autonomous navigation

Learning Assistant — Aug. 2023 – May 2025
Pennsylvania State University — *University Park, USA*

- 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 — May 2024 – Aug. 2024
Pennsylvania State University — *University Park, USA*

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

Generative Artificial Intelligence Intern — May 2024 – Jul. 2024
LTI Mindtree — *Mumbai, India*

- 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: Utilized web scraping scripts to extract product details from eBay using frameworks like Scrapy, BeautifulSoup, and Selenium, streamlining the data collection process

Data Science Intern — Jun. 2023 – Jul. 2023
Tata Consultancy Services — *Mumbai, India*

- 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 Aug. 2022 – May 2025

Women in Engineering Program *University Park, USA*

- 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*

- Developed a hate speech detection system by integrating transformer models (BERT and RoBERTa), ensemble techniques, and innovative preprocessing methods to significantly enhance performance on the 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%

LoanLens – Loan Approval Prediction System | *Python, Scikit-learn, Pandas, Matplotlib, Seaborn*

- Built an end-to-end machine learning solution for loan approval prediction using Python and Scikit-learn
- Processed and analyzed 500+ loan applications with 12+ financial and demographic features, performing data preprocessing, feature engineering, and exploratory data analysis (EDA)
- Implemented and evaluated multiple classification models including Logistic Regression, KNN, SVM, Decision Tree, and Ensemble methods, achieving ∼77% prediction accuracy
- Utilized Pandas, Matplotlib, and Seaborn for data cleaning, visualization, and performance analysis

MindScope – Workplace Mental Health Analytics Dashboard | *Tableau*

- Created an interactive Tableau dashboard to analyze 1,200+ workplace mental health survey responses
- Designed multiple visualizations to uncover demographic trends, workplace support patterns, and mental health reporting behaviors
- Leveraged filters, calculated fields, and dashboard interactivity to explore relationships between employee demographics, workplace policies, and mental health outcomes

Technical Skills

Languages & Databases: Python, SQL
Areas of Expertise: Data Analysis, Machine Learning, Data Structures and Algorithms
Tools: Microsoft Excel, Power BI, Tableau
Libraries: NumPy, Pandas, Scikit-learn, Matplotlib