Isha Mahadalkar

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Ambitious graduate student seeking opportunities in Data Analytics and Visualization. Extensive background in machine learning, data analysis, research, and leadership. Strong analytical skills and an effective communicator, passionate about uncovering insights from complex datasets.

EDUCATION

Purdue University — **West Lafayette, IN**

Master of Science in Computer Graphics Technology (GPA: 4.00/4.00) — *Aug 2022 – present*

- Concentration in *Data Analytics and Visualization*

Bachelor of Science in Computer Science (GPA: 3.52/4.00) — *Aug 2018 – Dec 2021*

- Double Concentration in *Software Development & Machine Intelligence and Data Mining*

EXPERIENCE & LEADERSHIP

Purdue University | NSF I-GUIDE — **West Lafayette, IN**

Graduate Research Assistant (Web Technologies, Software Development, Data Visualization) — *Aug 2022 – present*

- Conceptualized, designed, and developed a Data Visualization Capacity (DVC) tool, improving visual literacy for 200+ unique students each semester, fostering a dynamic learning environment with positive findings published in relevant academic journals.
- Collaborating with senior faculty in assessing tool impact, collecting user data, and generating reports for usability analysis, currently utilizing Tableau to create a comprehensive dashboard for ongoing research.
- Implemented real-time quizzes and integrated domain-specific data visualization case studies, creating an interactive learning space supporting hybrid teaching and on-demand study models.

Tesla | The Data Mine — **Remote**

*Data Science Researcher (*Data Analysis, Classification, NLP) — *Jan 2023 – May 2023*

- Collaborated with Tesla to create an NLP FNet model, classifying open text maintenance records into standardized groups, aimed to analyze common failure mechanisms to significantly reduce downtime.
- Conducted exploratory analysis on a historical dataset encompassing 188k+ records. Applied robust data cleaning, feature engineering, and extraction techniques to derive meaningful insights and enhance decision-making processes.
- Engineered an automated recommender model for spare parts replacement and servicing, utilizing the PyTorch Framework, to efficiently identify underperforming equipment and potential failures.

Purdue University — **West Lafayette, IN**

Project Coordinator – CS407, CS307 (Software Engineering Senior Project) — *May 2021 – Dec 2021*

- Selected by faculty during undergraduate studies to assume responsibilities typically entrusted to a graduate student, demonstrating exceptional capability.
- Coordinated and supported 5+ student teams, providing technical support, supervising SWE project leading meetings, documenting progress, providing feedback, and enhancing overall team productivity.

PROJECTS

Assessing the Impact of Microplastics on Plankton Communities — *Mar 2023 – May 2023*

Predictive Modeling and Visualization (Tableau, Python, ARIMA)

- Gathered, cleaned, and analyzed 245k+ rows of data to map microplastic concentrations, correlating with phytoplankton activity measured by chlorophyll-a and phaeopigment levels.
- Developed an ARIMA model identifying anomalies and aligning well with observed values, forecasting consistent microplastic levels with spikes in 2015 and 2020.
- Constructed an interactive Tableau prototype dashboard facilitating oceanic regional and temporal comparisons.

Navigating Success: Harnessing Academic Data for Student Outcome Projections — *Oct 2023 – Dec 2023*

Predictive Analytics for Student Success (Python, Data Analytics, Machine Learning)

- Led a research project focused on predicting student academic success, investigating a dataset with 4500+ records and 37 variables. Investigated significance of various features, emphasizing impact of first-year grades on academic predictions.
- Implemented advanced techniques from Python's scikit-learn library, including the Pipeline class and Column Transformer, for effective model construction using traditional classification models.
- Achieved remarkable results with a 77% accuracy rate and an individual Dropout F1 score of 0.76, surpassing accuracy reported in the source paper, showcasing model's robust predictive capabilities.

SKILLS & ACTIVITIES

Programming Languages: Python, Java, SQL, C, C++, Swift, JavaScript, HTML, CSS, R, Processing, D3
Tools & Software: Tableau, Excel, Neo4J, Gephi, Git, Bash, MongoDB, Electron, RStudio
Interests: Global House Peer Mentor, Computer Science Women's Network, Meditation, Writing.
Languages: Professional fluency in speaking and writing in English, Hindi, and Marathi.