Isha Mahadalkar

mahadalkar.isha@gmail.com | +1 (765)-237-2265 | linkedin.com/in/isha-mahadalkar | Portfolio

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*

TECHNICAL SKILLS

Programming Languages: Python, Java, SQL, C, C++, Swift, JavaScript, HTML, CSS, R, Processing, D3
Software: Tableau, PowerBI, Excel, MongoDB, RStudio, Minitab
Libraries and Tools: PyTorch, Sklearn, Scikit-learn, Pandas, Numpy, Git, Neo4J, Gephi

EXPERIENCE & LEADERSHIP

Purdue University | NSF I-GUIDE **West Lafayette, IN**
Graduate Research Assistant *Aug 2022 – present*

- Conceptualized, designed, and developed a Data Visualization Capacity (DVC) tool, improving visual literacy for 350+ students each semester, fostering a dynamic learning environment.
- Spearheaded comprehensive user studies to assess the impact of the tool, including the collection of user data and the generation of detailed reports for usability analysis. Leveraging Python for meticulous data cleaning and analysis, Minitab for robust statistical analysis, and Tableau for insightful dashboarding.
- Engineered real-time quizzes using JavaScript and integrated domain-specific data visualization case studies, building an interactive learning space supporting hybrid teaching and on-demand study models. Publication

Tesla | The Data Mine **Remote**
Data Science Researcher *Jan 2023 – May 2023*

- Conducted thorough exploratory analysis on a historical dataset comprising over 188,000 records. Implemented rigorous data cleaning, feature engineering, and extraction techniques to uncover actionable insights, thereby improving decision-making processes.
- Collaborated with Tesla engineers to develop an NLP FNet model, categorizing open text maintenance records into standardized groups, aiming to analyze prevalent failure mechanisms and minimize downtime.
- Engineered an automated recommender model for spare parts replacement and servicing using the PyTorch Framework, efficiently identifies underperforming equipment and predicts potential failures.

Purdue University **West Lafayette, IN**
Project Coordinator – CS407, CS307 (Software Engineering Senior Project) *May 2021 – Dec 2021*

- Managed and supported 5+ student teams, providing technical support, supervising SWE project leading meetings, documenting progress, providing feedback, and enhancing overall team productivity.
- Streamlined project timelines, resulting in improved project delivery times while maintaining high-quality standards using Agile and Scrum methodologies.
- Selected by senior faculty during undergraduate studies to assume responsibilities typically entrusted to a graduate student, demonstrating exceptional capability.

PROJECTS

- **Student Outcome Projections**: Led a research initiative to forecast student academic outcomes, leveraging Python's scikit-learn for feature analysis and model development, achieving a 77% accuracy rate and surpassing benchmarks, emphasizing the predictive power of initial academic performance. GitHub
- **Assessing the Impact of Microplastics on Plankton Communities:** Integrated Tableau and Python for predictive modeling, and dashboarding. Developed an ARIMA model identifying anomalies and aligning well with observed values with a normalized RMSE value of 0.175, forecasting consistent microplastic levels with spikes in 2015 and 2020.
- **Nashville Housing Data Cleaning:** Aiming to standardize data formats, perform population updates, and optimize cleanliness for enhanced analysis using SQL, conducting a comprehensive analysis with a focus on data preparation. GitHub
- **Empowering Data Excellence:** Utilizing Power BI for data cleaning and dashboard creation, this project seeks to analyze survey data from data professionals, with the goal of extracting insights, and visualizing key trends and patterns through interactive dashboards. GitHub
- **Data-Infused Playlist Companion**: Delving into Spotify's dataset to contrast attributes of contemporary viral hits with past classics, unveiling enduring trends in music popularity across various eras. Uncovering insights into the enduring appeal of specific musical characteristics and the evolution of music trends. GitHub

EXTRACURRICULAR ACTIVITIES

Interests: Global House Peer Mentor, Computer Science Women's Network, Meditation, Writing.
Languages: Professional fluency in speaking and writing in English, Hindi, and Marathi.