AASHREEYA KARMACHARYA

Arlington, Texas 76010

📞 682-405-4588 ✉ axk6637@mavs.uta.edu in www.linkedin.com/in/aashreeya-k-217914223/ ⭘ github.com/axk6637

Education

The University of Texas at Arlington | **Current - May 2027**
Bachelor of Science in Computer Science | *Arlington, Texas*
CGPA: 3.95

Involvement and Experience

JPMorgan Chase & Co. - Software Engineering Simulation | **August 2025**
Spring Boot, Kafka, SQL, REST API, Java
- Contributed to the development of Midas Core, a Java Spring Boot microservice responsible for receiving, validating, recording, and exposing financial transactions through Kafka, SQL databases, and REST APIs.
- Implemented a Kafka listener in Java with Spring Boot to consume and deserialize real-time financial transactions.
- Developed transaction validation and persistence using Java, Spring Data JPA, and H2 Database.
- Connected Midas Core to an external Incentives REST API, applying rewards to recipient balances
- Developed a /balance GET endpoint returning user balances as JSON with error handling

Wells Fargo - Software Engineering Simulation | **July 2025**
Java (OOP,Beans), Spring, RDBMS, ORM
- Built ERDs and explored object-oriented design in Java and Spring Boot for a financial portfolio management system.
- Developed core entity classes using Java and JPA and applied relevant annotations to establish proper object-relational mapping.

AI4ALL Fellow - Summer Ignite Program | **Summer 2025**
Data Analytics, Data Visualization, Machine Learning, AI
- Worked in a remote environment to predict future energy usage based on country-specific economic and regional factors using Random Forest and XGBoost Regressor.
- Conducted data cleaning, exploratory analysis, and feature engineering reducing MAE by 7.4%, MSE by 25.5%, and achieving an overall accuracy of 97.6%.
- Deployed the findings in a Streamlit app and containerized it using Docker for consistent deployment across systems.

Data Science Trainee - TechAxis Pvt. Ltd. | **November 2021 - February 2022**
Python, Power BI, Matplotlib, Scikit-learn, Pandas, NumPy, Seaborn, Google Workspace
- Cleaned, standardized, and validated datasets using Python, ensuring accurate and consistent data flows for analysis and reporting
- Created clear, actionable data reports and visualizations with Matplotlib, Seaborn; supported dashboard development in Power BI.
- Built machine learning models with bias mitigation techniques to improve fairness and accuracy.

Projects

GeminEye | *Python, Gemini API, OpenCV, pyttsx3, Base64*
- Collaborated with a teammate to develop GeminEye, an AI-powered real-time navigation assistant that helps individuals with visual impairment to detect objects and navigate safely using live video analysis and speech interaction.
- Integrated Google Gemini 1.5 Flash API with OpenCV to process live frames, encoded as Base64, to generate real-time environmental descriptions, and provide AI-driven movement guidance.
- Designed a hands-free, bidirectional speech system using speech recognition and pyttsx3.

Breast Tumor Classification Using ML | *Python, Scikit-learn, Pandas, Matplotlib, Seaborn, Streamlit*
- Developed a ML model to classify breast tumor for early cancer diagnosis using Random Forest, achieving AUC-ROC score of 0.94.
- Addressed class imbalance by implementing SMOTE and ADASYN oversampling techniques to enhance model performance.
- Performed exploratory data analysis with visualizations, correlation heatmaps, and feature importance analysis to optimize model training.
- Deployed the model as a web application using Streamlit, enabling easy access and predictions for non-technical users.

Mavs Online Entertainment System (MOES) - Java Media Management Platform | *Java*
- Developed MOES media management system in Java for UTA student content access, employing a four-sprint process with a menu-driven UI for seamless media interaction, incorporating file I/O for data persistence and automated regression tests for feature validation.
- Applied object-oriented design principles like inheritance and polymorphism to enhance system functionality and maintainability, implementing comprehensive JavaDoc documentation for clear, maintainable code.

Checkers - Class Project | *HTML, CSS, JavaScript, Java*
- Applied Iterative approach, working in a team of 3 and collaborating with 11 development teams to build a secure login system.
- Built the login page using HTML, CSS, and JavaScript with client-side form validation and implemented user authentication via Java WebSockets connected to the backend database.
- Gathered requirements, created use case diagrams, state diagrams, and UI mockups to guide development.

Technical Skills

Languages: Python, Java, C, SQL, HTML, CSS, JavaScript
Frameworks/Libraries: Spring Boot, JPA, Scikit-learn, OpenCV, Streamlit, pyttsx3
Tools: Git, Docker, Power BI, Google Workspace, IntelliJ, VS Code, Linux, Google Colab, Jupyter Notebook, Oracle Virtual Box

Honors and Awards

UTA Hack-Day | **Spring 2025**
Winner- Best Use of Gemini API | *University of Texas at Arlington*
- Awarded 'Best Use of Gemini API' for developing GeminEye, an AI-powered assistive navigation system.

Dean's List | **Spring 2025, Fall 2024**
College of Engineering (COE) | *University of Texas at Arlington*
- Recognized for being one of only 457 students among more than 6,000 students in COE for academic excellence.