Varun Parekh

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EDUCATION

George Mason University, Fairfax, VA *Expected Graduation:* May 2026

Bachelor of Science, Computer Science GPA: 3.6

Relevant Coursework: Data Mining, OOP, Low-Level Programming, Multivariable Calculus, Probability/Statistics, Discrete Mathematics, Linear Algebra, Computer Systems and Programming, Formal Methods and Modeling, Database Systems, Intro to Artificial Intelligence, Algorithm Analysis, Ethics and Law

Honors: Honors College, Dean's List Fall 2023 and 2024

SKILLS

Technical Skills: *Django, pandas, NumPy, matplotlib, JUNIT, Javadoc, GIT, Excel, AutoCAD, Jupyter Notebook, RDBMS, Canva, Adobe Photoshop, AWS, Scikit-Learn, MS Office, Prompt Engineering, OpenAI, Accounting, JDBC API, SQLAlchemy*

Technical Languages: *Python, Java, C, R, HTML5, CSS, JavaScript, SQL, x86*

Databases: *Oracle, MongoDB*

Operating Systems: *Windows, MacOS, Android, Unix, Linux*

Certifications: CodePath Intermediate Interview Prep, *OneRoadMap Data Analyst and AI Engineer Certifications*

EXPERIENCE

Opfin AI, Centerville, VA December 2024 – Present

Data Analyst Intern

- Designed and maintained **OracleDB** schemas with **15+** normalized tables and **60+ PL/SQL** queries to manage and preprocess **100,000+** time-series stock records; used **oracledb** and **SQLAlchemy** in **Python** to pipeline historical price and volume data into mining workflows.
- Applied data mining techniques on stock market datasets using Python (**pandas, NumPy, Scikit-Learn**), including clustering (**K-Means, DBSCAN**), technical pattern recognition, and dimensionality reduction (**UMAP**) to engineer a custom stock market indicator for trend prediction and portfolio insights.

PROJECTS

FrequentFlier Rewards Android Application Tool (Oracle DB, SQL, Java) March - May 2025

- Designed and implemented a relational database system for a FrequentFlier rewards program from an entity-relation diagram using **Oracle SQL**, managing **40+** passenger records across **10+** tables with optimized queries.
- Developed a **Java-based JDBC application** for real-time database interaction, executing **18+** complex queries and packaged as a standalone JAR for seamless deployment.
- Developed an **android app** with **6** actions to allow users easy access to the database, allowing them to view personal records efficiently.

Animated Digital Greeting Card with AWS Deployment (AWS, HTML, CSS, JavaScript) February 2025

- Developed an interactive digital greeting card using **HTML, CSS, and JavaScript**, incorporating **5+** animations, smooth transitions, and synchronized music for enhanced user engagement.
- Deployed the greeting card using **AWS S3** bucket hosting, ensuring **99.99% uptime**, fast load speeds, and scalable static website hosting for seamless online access.

Cost-Sensitive Learning Research: Propensity Modelling and Maximizes (Python) December 2024

- Evaluated **10** machine learning models on the KDD 1998 dataset **(95,412 samples, 481 features)** to predict donor likelihood via propensity modelling using metrics such as accuracy, F1 score, and AUC, achieving **0.8+** AUC on cross-validation with a Random Forest Model (**200 estimators**, max depth=None).
- Optimized model performance with **GridSearchCV** and **RandomizedSearchCV** and applied preprocessing techniques like **SMOTE**, Lasso Regression, and **UMAP** to improve efficiency.

ZAKU Task Manager (UNIX, C) October 2024 – November 2024

- Developed a **Unix-based** task manager, handling the execution and management of **Bash** commands, with support for command chaining, piping, and task status tracking.
- Engineered dual-process management functionality for Unix-based task manager, enabling seamless execution of up to **10** concurrent processes while ensuring robust signal handling and efficient inter-process communication through pipes.

LEADERSHIP & COMMUNITY INVOLVEMENT

GMU Hindu Student Association – Founding President January 2025 – Present