Saransh Sharma

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Education

Rutgers University **Sep 2022 – May 2024**

Master of Science in Computer Science *CGPA: 3.8/4*

Relevant Coursework: Data Structures and Algorithms, Artificial Intelligence, Database Management Systems, Machine Learning, Mathematics for Data Science, Computer Vision, Computer Networks, Data Mining

- **Teaching Assistant:** Mentored 250+ students in Data structures, algorithms and RDBMS

Technical Skills

Languages & Tools: Python, Java, SQL, C++, JavaScript, TypeScript, HTML, CSS
Frameworks & Tools: FastAPI, ReactJS, Pydantic, Django, NodeJS, Postman, PowerBI
Databases: MySQL, PostgreSQL, MongoDB
Cloud: Docker, Kubernetes, AWS(S3, EC2, Lambda)
CI/CD: Git, Gitlab

Experience

Blue Sigma ***Software Engineer Intern*** **Sep 2024 – Present**

- **Gathered functional requirements** with product owners, ensuring clear alignment of technical and business goals
- Built a robust backend in **Python** & **Django**, exposing RESTful APIs for user authentication and data retrieval
- Created frontend components, enabling users to interact with large data sets & access real-time visualizations, **reducing page re-renders by 15%** to increase user productivity
- Containerized deployments, ensuring consistent development environments, **reducing deployment failures by 20%**

VigilanceAI LLC ***Software Engineer Intern*** **Jan 2022 – Apr 2022**

- Collaborated with engineers to design and deploy a CNN-RNN model for object, activity, and posture recognition, integrating the model into a production ready web application for real-time detection with an accuracy of 97%
- Maintained and helped develop a full-stack web application using JavaScript, Node.js, **React.js** and **MongoDB** to create dynamic front-end interfaces for multiple components
- Used **RESTful APIs** to facilitate seamless communication between the front-end, back-end, database, and machine learning models for real-time inference
- Optimized model performance by improving data pre-processing pipelines and tuning hyper-parameters, leading to a **10% increase** in model accuracy
- Implemented **CI/CD pipelines** to automate deployments, utilizing Git for version control

Projects

TaskMaster - Task Manager

- Conceptualized an open-source web app using **React**, **Firebase Auth**, **Firestore DB** to address the need for a simple, secure and scalable task manager
- **Implemented secure authentication** and used sub-collections, ensuring users' tasks persist and remain isolated
- Enhanced the UI with Bootstrap, enabling intuitive features like creating, reordering, and deleting tasks efficiently
- **Deployed via Vercel**, achieving sub-second load times, broad accessibility and laying the groundwork for future expansions

Receipt Processor

- Built a RESTful API using **Python** and **FastAPI** to process JSON receipt data and compute reward points using rule-based logic, with modular design separating routing, validation, and business logic
- Enforced strict **input validation using Pydantic** with regex constraints and **custom error handling** for consistent and informative validation responses and **reduced invalid request processing by 100%**
- Containerized the application using Docker and designed the service to be stateless, scalable, and easily testable with integration tests written in Pytest, **increasing test coverage by 60%**

Fraud Detection Dashboard

- Designed a schema & developed a suspicious transaction detection and flagging dashboard using **SQL Server** and **Power BI** to identify anomalies and fraudulent transactions
- Optimized data processing and reporting using indexing and views to **pre-aggregate frequently used metrics**, improving query performance by **20%**