Shiv Desai

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EDUCATION

Emory University   Atlanta, GA
Bachelor of Science in Computer Science, GPA: 3.87/4.00   *Aug. 2022 – May 2025*

EXPERIENCE

Software Engineer Intern   May 2024 – Aug. 2024
Qualitate   *New York City, NY*
- Built a dynamic Market page dashboard with **React** displaying real-time data analytics and visualizations on over **70+** markets spanning across **8+** industries, enabling clients to make informed market-specific investments.
- Presented the market dashboard to potential investors and clients, leading to **5** converted trials and initiating numerous discussions with clients to secure additional contracts.
- Implemented a navigation bar mapping over **200+** unique routes across the full application, ensuring smooth user interaction and data accessibility throughout the platform.
- Integrated **RESTful APIs** with **Axios** between React frontend and **Express** backend, securing connections across 6+ routes for enhanced data integrity.
- Refactored **2+** web pages and **7+** endpoints, resulting in a **37%** improvement in web page load times by minimizing fetch requests and optimizing state management.

Data Engineer Intern   Jun. 2023 – Aug. 2023
Fiserv, Inc.   *Berkeley Heights, NJ*
- Developed and maintained the data infrastructure supporting a real-time cost analysis dashboard for **AWS** usage, streamlining visualization of **7** cost metrics for **11** different applications.
- Utilized **S3** triggers and CloudWatch to routinely populate Snowflake tables with AWS Usage Report data, increasing AWS cost visibility by more than **50%**.
- Preprocessed AWS Usage Reports using **Lambda** and **Python**, initiating the data pipeline that powers **95%** of analytics and live cost metrics for the dashboard.
- Configured to the database schema architecture necessary for Gemfire to **MySQL** database migration project.

PROJECTS

Marginfi Liquidation Bot | *Go, TypeScript*   Dec 2023 – Present
- Engineered a Solana liquidation bot in **Go** to swiftly identify defaulted loans, execute liquidations, and re-balance the liquidator accounts, collecting a **2.5%** profit of the liquidated collateral per liquidation.
- Transformed the Marginfi SDK in **TypeScript/Rust** to Go through deserialization, go routines to concurrently fetch data, context and mutexes to control data flow, and stored data in cache stores for efficient retrieval.

Malloc Implementation | *C*   Mar 2024
- Manually implemented **malloc** in **C**, incorporating chunk allocation and deallocation functionalities through pointer arithmetic, byte manipulation, and comprehensive understanding of heap memory management.
- Leveraged a linked list-based **Free Node** list management system for tracking and allocating memory chunks, replicating real memory storage optimization.

RSS Feed Aggregator | *Go, PostgreSQL*   Mar 2024
- Programmed a RSS-Feed-Aggregator using **Go**, leveraging **PostgreSQL** for efficient data storage and query handling, and integrated goose for database schema migrations.
- Implemented a **RESTful API** using go-chi for server management, providing user interactions through HTTP requests. Utilized a scrapper worker for RSS feed updates which are continuously stored in the database.

TECHNICAL SKILLS & RELEVANT COURSEWORK

Languages: Python, Java, Go, C, SQL (Postgres), JavaScript, Typescript, HTML/CSS
Frameworks and Libaries: React, Node.js, Express.js, pandas, NumPy, Matplotlib, Scikit-learn
Tools & Platforms: Git, GitHub, Linux, Supabase, PostgreSQL, AWS, Snowflake
Coursework: Data Structures, Algorithms, Systems Programming, Computer Architecture, Deep & Machine Learning, Database Systems, Spatial Computing, Discrete Mathematics, Linear Algebra, Calc 1-2