PRANAV IYER

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Education

New York University *(Merit Scholarship Recipient)* September 2022 – May 2024
Master of Science in Computer Engineering; GPA: 3.94/4 New York City, NY
Courses: Database Management, Java, Operating Systems, Data Structures and Algorithms, Cloud Computing

Vellore Institute of Technology July 2017 – June 2021
Bachelor of Technology in Computer Science and Engineering; GPA: 8.79/10 India

Professional Experience

Fullstack Engineer Intern **New York University** May 2023 – May 2024

- Streamlined API access request and approval processes in an NYU web portal using Flask, React.js, and MySQL, automating email notifications for complete process flow
- Contributed to increasing the user base from 60 to 270 through the development and enhancement of the application
- Achieved 100% test coverage for request creation and data fetching using Flask's unit testing and TDD practices
- Improved UI responsiveness and consistency by using AntD's standardized components within React
- Integrated NYU Shibboleth OAuth, enhancing security and compliance, reducing unauthorized access by 40%

Software Engineer **Bank of America** July 2021 – August 2022

- Conducted monthly scans of 25 million records per assigned database to identify potentially sensitive information
- Increased monthly database scans per engineer by 75% by developing a job scheduler to automate execution from a CSV of config IDs
- Streamlined CSV report validation with a Python filter utility, cutting processing time by 70%
- Optimized validation time for large reports (>40k records) by redesigning the endpoint to segment report files before storage
- Refactored **Java** Spring backend of the report management tool to align with new normalized database structures, improving query execution time

Skills

- **Programming Languages:** Python, C++, Golang, Java, TypeScript, Swift
- **Databases:** MySQL, PostgreSQL, VectorDbs
- **Frameworks/Libraries:** React, Flask, Spring Boot, JUnit, SwiftUI
- **Technologies and Tools:** REST APIs, Docker, Jenkins, WebSockets, gRPC, Multithreading, OAuth, OpenAI APIs
- **Cloud:** AWS (DynamoDB, Lambda), GCP Cloud Run

Projects

Leya - CLI package (Python, CLI development, Generative AI, AST Trees) [Code] [Package]

- Engineered and deployed a cross-platform terminal tool that seamlessly integrates with GitHub repositories for cloning and code analysis
- Enhanced debugging efficiency with Leya by introducing function-specific queries, cutting manual search efforts by 50%

Zippy - In-Memory Data Store (C++, gRPC, Multithreading) [Code]

- Engineered Zippy, a high-performance gRPC-based in-memory data store using C++, achieving an average throughput of 2753 ops/sec for GET operations, enhancing real-time data retrieval efficiency
- Implemented advanced features in Zippy such as TTL-based data expiration and merge-on-update snapshotting for data persistence

Collaborative Document Editing Backend (Go, WebSockets, TypeScript) [Code]

- Built CollabDoc, a real-time collaborative document editor using Go and TypeScript, supporting seamless multi-user editing
- Implemented Operational Transformation and WebSocket communication for low-latency updates and efficient concurrency handling

Publications and Extracurricular Activities

- **Authored five papers published in IEEE conference proceedings and one research article in a Scopus-indexed journal [More info]**
- **2040 Now Ambassador, New York University:** Spearheaded event coordination for sustainable initiatives, including food choices and eco-friendly fashion