Alex Diaz

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Education

Georgia Institute of Technology — Atlanta, GA
Master of Science in Computer Science ***GPA 4.0 / 4.0*** — *Jan 2021 – May 2023*

The University of Georgia — Athens, GA
Bachelor of Arts in Economics, Minor in History — *Aug 2013 – May 2017*

Experience

Google — May 2022 – August 2022
Software Engineer Intern — *Sunnyvale, California*

- Designed and implemented components of a client-facing (Photos, Lens, etc.) data acquisition system for machine learning models; Propagated data from other systems to a frontend with C++ and Angular.
- Led the implementation of a new backend system and extended existing infrastructure for compatibility. Challenges included RPC compatibility, designing APIs, and a scalable database design.
- Delivered a product with stakeholder input and graded by established metrics (e.g., scalability, integration).

Tokyo Coding Club — Jun 2021 – May 2022
Software Engineer Tutor — *Tokyo, Japan*

- Teaching students software engineering, Python, and object oriented-design.

United Parcel Service (UPS) — Nov 2018 – Nov 2019
Data Analyst Manager — *Sandy Springs, Georgia*

- Implemented automated reporting applications by designing and rewriting SQL database tables to feed more than 500,000 data entries into VBA and Python applications.
- Led and coordinated inter-team reporting, streamlining other teams' workflows; Reduced average reporting workload from 3 hours to 3 minutes using applications I wrote in Python (Pandas, SQLite).
- Developed software and mentored peers on three teams using Python, Microsoft SQL Server, and VBA.

Projects

- *2021 – Multi-threaded socket server and client* – Programmed a high-performance multi-threaded server and client in C utilizing the Linux system call API and Sockets library. Demonstrated IPv4 / IPv6 interoperability and multi-threading management (C libraries).

- *2021 – AI Agent* – Architected an AI agent based on Newell's SOAR to solve Raven's Progressive Matrices. I used computer vision (i.e., scale-invariant feature transformation (SIFT)) and human-like cognition algorithms to enable the agent to process IQ test images as problems; resulting in a success rate of 70%. I implemented the agent in Python, using object-oriented computer programming, OpenCV, and NumPy. Written with meta-cognition facilities to better solve problems.

- *2020 – TimeTime* – Coded a Java Android application (Android Studio) that prompts users through their lock screen to log their daily activities. The application uses a model-view-controller pattern to provide users an infinite scrolling list and enable interactions with good performance and a beautiful UI / UX created with Jetpack. My architecture allowed for local persistent data (RoomDB) and concurrency.

Technical Skills

Languages: Java, C++, Python, Go, SQL, TypeScript, Angular, VBA, HTML/CSS, Bash, SQL
Tools: Git, Blaze, Agile, Cloud, Distributed systems, VIM, Docker, Make, Linux, unit testing, CFA LV 1, Larry David