

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.
- Presented and delivered the new product as outlined by stakeholder criteria and coordinated with my team's product manager, for client-driven results.

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, C++, Go, SQL, JavaScript, TypeScript, Angular, VBA, HTML/CSS, Bash, SQL

Dev Tools: Git, Agile, GCloud, AWS, VIM, Docker, Make, Linux, Unit Testing, LaTeX, Arduino, Android Studio

Misc: CFA LV 1, NLP, AI, API design, systems design, software architecture, equities, Larry David