Rafael Piloto ● rpilotojr10@gmail.com ● U.S. Citizen ● **linkedin.com/in/rafaelpiloto10** ● **rafaelpiloto10.github.io**

Work Experience:

Google Software Engineer ● Seattle, WA ● 05/16/24 - Present
- Develop and maintain internal & external critical services required for virtual machine operation backing the entire GCE VM fleet
- Technologies: C++, Golang, gRPC, Google Cloud Compute Engine, Abseil, Bazel, Serial Port Console, Metadata Server

Reffy Inc. Lead Software Developer ● Atlanta, GA ● 08/14/22 - 05/16/24
- Designed and implemented scalable, distributed infrastructure to handle traffic supporting all application and business operations, including the client-facing web application and microservice backends for various functionalities reducing customer labor by 80%
- Provided oversight and collaborated with 3 FTE to implement infrastructure and features within product requirement deadlines
- Technologies: Golang, TypeScript, NextJs, GCP, Azure, Docker, Protobuffers, PostgreSQL, Redis, DevOps, Stripe, Jira

Google SWE Intern ● Sunnyvale, CA ● 05/25/23 - 08/14/23
- Design and implement a worker binary to automate and optimize Google Cloud Security Data Residency's Monitoring and Compliance onboarding process saving 10 SWE days of work per quarter and frictionless experience for Google Service Teams
- Technologies: C++, Distributed Systems, Multi-threading, Abseil, Flume, Bazel, Internal Server Frameworks, gRPC

Air Force Student Researcher ● Atlanta, GA ● 01/14/21 - 05/14/23
- Integrated automated hyperparameter model tuning for Deep-Q Networks using sweeps and data analysis
  - Technologies: Python, NumPy, Matplotlib, Weights and Biases, Pandas, Data Science, GCP
- Develop Human-Computer Multi-Modal Controllers using computer vision and natural language processing. Implemented gesture recognition for automatic video cropping and smoothing increasing model accuracy and validation by 15%
  - Technologies: Python, NumPy, Matplotlib, MediaPipe, OpenCV, Computer Vision, Gesture Recognition
- Refined reinforcement learning models for a robotic manufacturing process to optimize the propeller blade inspection process at Warner Robins Air Force Base. Abstracted model to reduce model configuration by over 80% with no required user-facing software
  - Technologies: Google Cloud Platform, Python, Reinforcement Learning, Deep Learning

Google STEP Intern ● Sunnyvale, CA ● 05/25/22 - 08/14/2022
- Updated existing Vertex AI Debug Console and migrated a legacy console to centralize debugging resources using distributed databases (Spanner) to point to, cache, and display internal resource views optimizing engineer response and debugging time
- Optimized & centralized debug journey experiences eliminating cognitive burden, improving reliability & accessibility by 80%
- Technologies: Spanner, Golang, TypeScript, Kubernetes, GCP Logging, GKE, Angular, Bazel, Protobuffers, GCP, Unit Testing

Google STEP Intern ● Remote ● 05/25/21 - 08/14/21
- Implemented library framework to allow for test machine reservation and VM bin packing for Noisy Neighbor Tests.
- Library Framework streamlined the necessary steps for integration tests by bridging Google Machine Reservation Infrastructure to automate machine reservation & VM bin packing reducing the number of steps & time needed to write tests by 70%
- Technologies: Golang, Protobuffers, Remote Procedure Calls, Unit Testing, Machine Reservation, Mocking, Infra Design

Projects: github/RafaelPiloto10

Dispatch ● February 2025 - Present ● github/RafaelPiloto10/dispatch
- Scalable, fault tolerant, distributed job queue built to explore distributed job scheduler systems and algorithms.
- Technologies: C++, Bazel, Distributed Systems, Protobuffers, gRPC

Shield AI ● January 2024 - Present ● github/shield-ai-app
- Real time personal safety app that ingests first responder radio, transcribes audio, and alerts on life threatening events near you
- Technologies: Typescript, Svelte, Python, Golang, PostgreSQL, Whisper AI, Expo App

EduSearch ● January 2023 - May 2023 ● github/RafaelPiloto10/EduSearch
- Experimental, full-stack search engine indexed with university webpages to explore custom search engine development and crawling
- Technologies: Typescript, Python, HITS, SimRank, PageRank, React, Tailwind CSS, Express JS, Web Crawlers, Web Indexers

Education:

Emory University ● GPA: 4.0 ● Atlanta, GA ● August 2020 - May 2024
- Bachelor of Science in Computer Science, Minor in Quantitative Sciences
- Courses: Comp. Networking, Data Mining, ML, DSA., Comp. Arch., A.I., Sys. Prog., Operating Sys., Appl. Regression, Appl. Comp., Stat. Comp.

Organizations:

Emory Hack4Impact Director of Software Engineering ● May 2022 - May 2024 ● Lead team to develop software for nonprofits
Emory Robotics President (C++) ● January 2021 - May 2024 ● Founder & President - competed in collegiate competitive robotics
FIRST Robotics Alum, Volunteer, Mentor (Java) ● August 2016 - Present ● Programming Mentor, Judge, Field Volunteer

Languages: English (Native) ● Spanish (Native) ● American Sign Language (Native) ● Mexican Sign Language (Proficient)