Kazuya Miyata

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Education

University of California, San Diego Class of 2026
Bachelor of Science in Computer Science GPA: 3.97

Relevant Coursework: Data Structures and Algorithms, Python/Android Programming, Programming Methods: Java/C++, Multivariable Calculus, Discrete Math, Computational Linear Algebra, Electricity and Magnetism

Experience

AI Platform Engineering Intern August 2024
ExaWizards Inc. *Minato City, Tokyo, Japan*

- Developed a .NET Translation Bot for multinational meetings in C# utilizing Azure and PostgreSQL to enable live-translation amongst clients in Microsoft Teams.
- Implemented Microsoft Graph library to enable the bot to create and receive calls, authenticate users, and route user audio streams to the translation API through a ngrok tunnel.
- Benchmarked LLM models such as the Meta multilingual machine translation model for translation speed and quality, implementing them to build a Kotlin language detection algorithm with a 40% increase in accuracy.
- Migrated Speech-to-Text model to browser-side transcription using the Web Speech API which reduced the callback time of the program by up to 73%.

Software Team Lead September 2023 - Present
Triton Unmanned Aerial Systems *La Jolla, CA*

- Led a team of 12+ software engineers to create a flight system which autonomously guides a UAV through flight missions and airdrops to compete in the AUVSI SUAS Tournament.
- Developed a C++ tick-based engine for the plane's Jetson Nano to optimize event-driven state management while implementing a TCP socket stream to send and receive telemetry packets with the ground.
- Designed a backend service in Go which communicates with the plane's tick-engine and stores telemetry in an InfluxDB database to display and control the plane mission in real-time.
- Conducted code reviews as well as facilitated high-level architecture and design decisions.

Software Engineer October 2023 - Present
Yonder Deep *San Diego, CA*

- Designed and built a lightweight Web App utilizing React, FastAPI, and JavaScript to communicate with a unmanned submarine to display positioning data such as pitch, roll, velocity, depth.
- Researched and prototyped an underwater object detection program in C++ using TensorFlow, OpenCV, and cuDNN to create stereo depth/disparity maps to improve real-time positioning and obstacle avoidance of icebergs.

Projects

Will it blend? | *Python, C++, PyTorch, Blender, Rerun, Xtensor, Git* November 2023 - June 2024

- Built a Blender simulation and computer vision pipeline which detects and localizes aerial image targets.
- Implemented a transfer-learned FRCNN model in PyTorch for feature detection while utilizing Xtensor in C++ to develop an image-to-coordinate transformation system with less than 3 inch accuracy.

Istari UAV | *Python, Pandas, MATLAB, Raspbian, Git* June 2022 - Oct 2022

- Fabricated an ultra-lightweight UAV with a BU professor as a research intern for Istari.
- Experimented with 5+ PLA variants, measuring elasticity and tensile strength using MATLAB and NumPy to evaluate and model their aerial performance and cost curve in Pandas.
- Authored a company research paper on the performance of low-cost PLA models, presenting to company executives enabling the creation of prototypes of the company's aerospace models at up to 68% lower cost.

Technical Skills

Languages: Java, Python, C++, C, Go, SQL (Postgres), JavaScript, Typescript, Kotlin, C#
Frameworks/Libraries: React, TensorFlow, Pytorch, OpenCV, FastAPI, Xtensor, Pandas, NumPy
Developer Tools: Git, Docker, CMake, Amazon Web Services (S3), VS Code, IntelliJ, Agile, Blender, Scrum, Unix/Linux, ngrok, Azure, InfluxDB