

KAZUYA MIYATA

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EDUCATION

University of California, San Diego

Class of 2027

Bachelor of Science in Computer Science

GPA: 3.89

Relevant Coursework: Data Structures and Algorithms, Operating Systems, Database Systems, Web Client Languages, Distributed Networks, Computer Security, Python/Java/C++ Programming, Multivariable Calculus, Discrete Math, Computational Linear Algebra, Autonomous Robotics, Machine Learning, Theoretical Computability

EXPERIENCE

Undergraduate Research Assistant

April 2025 - Present

Advanced Robotics and Controls Lab

La Jolla, CA

- Spearheaded development of a marker-less robot pose tracking system for the da Vinci Research Kit (DVRK), implementing Deep Hough Transform models in PyTorch for pose challenges in unstructured clinical environments.
- Automated the entire model training lifecycle via synthetic data generation, containerizing the PyTorch environment using Docker for streamlined execution and ensuring reproducibility on remote GPU servers.
- Co-authored research demonstrating novel results in robot pose estimation, submitted for publication to the IEEE International Conference on Robotics and Automation (ICRA 2026). ([Link to Paper](#))

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 Robotics Tournament.
- Developed a C++ tick-based engine for the plane's Jetson Orin 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 REST API 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.

AI Platform Engineering Intern

July 2024 - 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 translations through a custom audio stream 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.

PROJECTS

Autonomous Mail Delivery Car | ROS2, Python, YOLO, SLAM

Sep 2025 - Dec 2025

- Engineered a ROS2-based autonomous navigation stack for a 1/10th scale vehicle, implementing modular ROS2 nodes for sensor fusion, localization, and real-time trajectory control to automate package delivery.
- Developed a perception pipeline utilizing YOLOv8 for dynamic obstacle detection and AprilTags for precise global localization, enabling the vehicle to navigate complex track environments and intersections.
- Designed and tuned a Pure Pursuit controller and PID loops to handle high-speed path tracking, processing LiDAR scans and camera data to optimize racing lines and collision avoidance.

Will it blend? | Python, C++, PyTorch, Blender, Rerun, Xtensor, Git

November 2023 - June 2024

- Built a high-fidelity Blender simulation environment and a computer vision pipeline that detects and localizes aerial image targets in 3D space, enabling robust control testing.
- 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.

TECHNICAL SKILLS

Languages: C++, Python, C, Go, Java, SQL (Postgres), JavaScript, Typescript, Kotlin, C#

Frameworks/Libraries: React, TensorFlow, Pytorch, OpenCV, FastAPI, Xtensor, Pandas, NumPy

Developer Tools: Git, Docker, ROS2, CMake, Amazon Web Services (S3), VS Code, IntelliJ, Agile, Blender, Scrum, Unix/Linux, ngrok, Azure, InfluxDB