Ezekiel A. Mitchell

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Education

Seattle University — Seattle, WA
B.S. Computer Engineering — *Dec. 2026 exp.*
Minor: Robotics, Chinese

University of Washington (Honors) — Seattle, WA
B.A. Finance, B.A. Chinese (transfer) — *Sep 2022 — Jun. 2023*

Bellevue College (Honors) — Bellevue, WA
Associate in Arts and Sciences, AAS-DTA — *Jan. 2022*

Experience

Undergraduate Research Assistant – Computer Vision, Deep Learning — Seattle, WA
Seattle University — *May 2024 — Present*

- Engineered and deployed an automated multimodal data collection pipeline (webcam, screenshots, TOBII gaze), achieving 98% capture accuracy and <50 ms synchronization latency
- Lead development of the CASEset dataset and deep learning training pipeline; recruited and managed 13 participants to collect 15K+ labeled frames (32 hrs) of synchronized data, extending the IEEE-published "CASE: Context-Aware Screen-based Estimation of Gaze" research and presenting findings at Seattle University's STEM Research Showcase
- Designed and implemented high-accuracy object detection, recognition, and tracking pipelines using Python, PyTorch, and OpenCV, leading to a 20% increase in student participation in robotics lab sessions and enhancing hands-on learning workshops

Engineering & QA Laboratory Technician — Seattle, WA
Promethean — *Sep. 2024 — May 2025*

- Developed and automated Python scripts integrating ADB, serial communication, and AWS S3 to streamline firmware updates and hardware testing, reducing the need for physical interaction by 80%
- Collaborated with senior engineers to develop secure API integrations between testing equipment and cloud infrastructure, enabling remote hardware management and implementing encryption protocols to ensure data integrity and security

Department Manager – Sergeant, Armory Chief — Okinawa, Japan
United States Marine Corps — *Jan. 2017 — Jan. 2021*

- Maintained 100% systems readiness of serialized technical systems and armory safety and compliance by strictly following Marine Corps Battalion order 8000.2C - Ordnance Standing Operating Procedures with zero discrepancies found during biennial audit
- Supervised over $3.5 million in military-technical systems for 9 strategic objectives and 1,300 personnel across four countries, overseeing ordering, issuing, tracking, and maintenance
- Developed and implemented streamlined logistical procedures that reduced technical system inspection and planning time by 30%

Projects

CASEset – Context-Aware Gaze Estimation | Python, PyTorch, OpenCV, Transformer Architecture
Seattle University – Contributed to IEEE IRC 2024 Conference Publication

- Co-developed C.A.S.E., a deep learning dataset and model pipeline for context-aware webcam gaze estimation, integrating synchronized webcam frames, screenshots, and Tobii eye-tracker data
- Designed and implemented the CASEset data collection system, automating timestamp synchronization and multimodal data capture for model training

GUARDEN — Garden Urban AI Rodent Detection and Environment | ESP-32, C++, Python, TensorFlow Lite Micro, MQTT
Danny Woo Historic Community Garden

- Designed and deployed a distributed IoT pest-monitoring network using ESP-32 camera nodes and CNN-based object detection to localize high-activity zones in unstructured outdoor terrain, achieving 78% detection accuracy and sub-250 ms on-device inference latency through MQTT-based data fusion

360 degree Threat Detection Module | Python, OpenCV, YOLOv10, Raspberry Pi 5
Seattle University Innovation Lab

- Led development of a 360° Threat Detection Module integrating synchronized camera inputs and edge-based CNN inference for real-time object recognition, achieving 86% detection accuracy and sub-200 ms response latency

Skills

Programming Languages	Python | C++ | Rust | MATLAB
Tools & Platforms	Linux | AWS | Docker | Git | OpenCV | PyTorch | TensorFlow | ROS2 | ADB | Bash
Research	Computer Vision | Deep Learning | Multimodal Data Synchronization | Data Collection Pipelines