

Michael Yoo

📞 703-517-9978 | ✉️ mjyoo18@gmail.com | 🌐 [michael-yoo-a58075188](https://www.linkedin.com/in/michael-yoo-a58075188)

EDUCATION

The George Washington University

Bachelor of Science in Computer Science, Minor in Data Science

Washington, D.C.

May 2025

EXPERIENCE

Software Engineer

July 2025 – Present

Apollotech MSI

Wharton, NJ

- Architected high-fidelity drone swarm simulation environments using PyBullet, Gazebo, and PX4 to develop and validate coordinated autonomous behaviors; led full autonomy stack transition to physical hardware for live stakeholder demonstrations.
- Served as Software Lead for a mission-critical decision-support system, owning algorithms for multi-source data fusion, tracking, and classification in contested, dynamic environments.
- Drove requirements definition and technical alignment across integrated product teams, delivering through design reviews and technical reports.
- Supported deployment and on-site testing of real-time systems, diagnosing and resolving performance and reliability issues in operational environments.
- Contributed to competitive technical proposals, designing scalable software architectures for autonomous and real-time defense systems.

Software Engineering Intern

Jun 2024 – Aug 2024

Corsha

Tysons, VA

- Automated deployment of test suites into Jenkins across multiple environments using Ansible, eliminating manual provisioning and standardizing configuration management.
- Identified bottlenecks in test infrastructure and engineered solutions adopted into the CI/CD pipeline, resulting in faster and more reliable builds.
- Integrated SonarQube into the CI/CD pipeline for automated static analysis, enabling early detection of code smells and enforcing code quality standards across the codebase.

Software Engineer Intern

Jun 2023 – Aug 2023

Knack Works Inc.

Chantilly, VA

- Improved data accessibility and visualization on the DaaS project using GoLang, Python, Kubernetes, ELK, and Kafka, achieving a 25% faster query response time.
- Deployed Logstash in Kubernetes for PostgreSQL-to-Elasticsearch migration.
- Developed a GoLang service with an AWS S3-compatible storage endpoint, cutting data retrieval times by 15% and optimizing cloud storage efficiency.

PROJECTS

Raytheon Autonomous Vehicle Competition (Senior Capstone)

Aug 2024 – April 2025

- Led a Visual Processing subteam to develop computer vision algorithms for real-time detection and tracking of ArUco markers using Python and OpenCV.
- Developed real-time communication protocol between two UAVs to enable synchronized navigation and payload delivery.
- Implemented autonomous navigation code to complete the mission, including search patterns, target detection, and transition to precision landing.
- Coordinated with interdisciplinary teams across CS, ECE, and MAE departments to ensure timely integration of vision, flight control, and hardware systems.

Multi-classification Image Detection Model | *Python, Tensorflow*

Feb 2024 – May 2024

- Designed and trained a custom Multi-Output Convolutional Neural Network capable of simultaneous object classification and localization across multiple categories.
- Integrated a lightweight MobileNetV2 backbone with a custom region proposal layer for real-time bounding box prediction and class label generation.

SKILLS

- **Languages:** Python, C++, Golang, C, JavaScript, Java, SQL, R
- **Distributed Systems:** gRPC, NATS, Apache Kafka, REST APIs
- **ML & Data:** scikit-learn, Elastic Stack, Grafana
- **Robotics & Autonomy:** PX4, ArduPilot, Mavlink, PyBullet
- **Defense Systems:** ATAK, FAAD C2
- **Cloud & DevOps:** Docker, Kubernetes, Helm, AWS, GCP
- **Tools:** Git, linux, wsl