Andrew Jeon

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EDUCATION

University of Washington, Electrical and Computer Engineering — Seattle, WA
Master of Science in Electrical Engineering (Machine Learning, Computer Vision, Robotics) — *September 2023 – June 2025*

University of Illinois at Urbana-Champaign, Electrical and Computer Engineering — Champaign, IL
Bachelor of Science in Electrical Engineering — *August 2016 - May 2021*

SKILLS

Languages: Python, C++, C
Tools: Pytorch, Git, Pybullet, ROS, Rviz, Scikit-learn, Numpy, MatPlotLib, OpenCV, Docker Containers, Linux, YOLOv8

WORK EXPERIENCE

Computer Vision Research Intern at **Sandia National Laboratories** — June 2025- August 2025
- Object Reconstruction and Identification

Research Assistant at **University of Washington** — December 2024 - Present
1. Visual-Inertial Sensor Fusion for Autonomous Rover SLAM, Advisor: Dr. Bingzhao Li
   - Leading the testing and evaluation of a sensor fusion inertial navigation system with 5 sensing modalities on a Rover with a solid-state LiDAR system.
   - Tuned navigation system and sensor parameters to achieve an Absolute Trajectory Error of 9.12091m across 11km trajectories on a public dataset.

Researcher at **University of Washington, Nvidia** — January 2024 - Present
1. Foundation Model Pose Estimation for Robot Grasping, Advisor: Professor Stan Birchfield
   - Leading the development of a pipeline that runs multiple instances of the foundation model, processes the transformation and pose matrices to enable precise grasping. Achieved Rotation Angle Error of 0.674 degrees and Translation Error of 0.655mm on Robot hand pose estimation.
   - Generated synthetic data with ground truth camera frame poses matrices, and virtual camera images with Pybullet
2. Regularization, SVD, and hyperparameter tuning to model neural population dynamics, Advisor: Professor Matt Golub
   - Led regularization and tuning experiments for low-rank and full-rank auto-regressive models resulting in 15-18% improvements (MSE) in model performance.
3. Image Processing for Fisheye Camera Image Object Detection, Advisor: Professor Jenq Neng Hwang
   - Led image processing with OpenCV and trained YOLOv8 Object Detection models on transformed images to achieve a 9% improvement (mAP) in roadside object detection in night-time images.

Teaching Assistant at **University of Washington** — September 2024 - December 2024
- Data Structures TA: Led office hours, helped students with questions, edited programming assignments and exams.

Field Applications Engineer at **Texas Instruments** — February 2023 - June 2023
- Led technical support and design for low power chips and sensors for Microsoft HoloLens and Intel DCAI clients.
- Organized customer visits to understand product needs and incorporate them into product strategy.

PROJECT EXPERIENCE

Ego Car Lane Detection — February 2025
- Filtered point cloud data by spatial location and lidar reflection intensity. Fit 3rd order polynomials to the filtered points to model the left and right lane lines.

3D Semantic Segmentation for Robot Navigation — March 2024 - June 2024
- Projected vision and text feature embeddings from a Vision Language Model to a voxel grid to perform 3D Semantic Segmentation. This resulted in a best class segmentation accuracy of 0.907 and the robot being able to navigate in 3D

Military Target Classification — January 2024 - March 2024
- Led soldier image collection, annotation and augmentation with Roboflow.
- Performed YOLOv8 hyperparameter tuning to achieve a mAP of 0.773 on classification of soldier images into “friend”