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) — *Sep 2023 – June 2025*
CSE546: Machine Learning, CSE576: Computer Vision, CSE599G1: Deep Learning, EE596: Advanced Computer Vision, CSE571: AI-Robotics, EE568: Deep Learning for Big Visual Data, EE590: Data Structures & Algorithms, EE599: Independent Research in ML and Computer Vision

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

SKILLS

Languages: Python, C++
Libraries: Pytorch, Numpy, Matplotlib, Torchvision, OpenCV, Pybullet, Pandas, Scikit-Learn, HFTransformers
Tools: Git, Docker, Linux, CI/CD (GitLab), ROS2

WORK EXPERIENCE

Post Masters Machine Learning Intern at Los Alamos National Laboratories — *Sep 2025- Sep 2026*
- AI/ML Research for shock response data

Machine Learning Intern at **Sandia National Laboratories** — *June 2025- Aug 2025*
- Building Data Processing Pipeline and CNN from scratch for voltage-current time-series signal anomaly detection.
- Testing several iPhone SLAM systems

Research Assistant at **University of Washington** — *Jan 2024 – May 2025*

1. **Evaluating Sensor Fusion SLAM** Advisor: Dr. Bingzhao Li
   - Led the testing and evaluation of a sensor fusion inertial navigation system on our lab rover and public driving datasets with Camera, IMU, Lidar, and Wheel Encoders.
   - Tuned sensor parameters for different setups to achieve an Absolute Trajectory Error of 9.12m across 11km trajectories on a public dataset and 1.1m on our rover dataset. Evaluating against other methods, towards ICRA 2026 publication.
2. **Evaluating Foundation Model Robot Pose Estimation with Synthetic Data Generation**, Advisor: Prof. Stan Birchfield
   - Generated synthetic RGB, depth, and mask images of robot by setting up a Pybullet Virtual Camera. Carefully navigated transformation/projection matrices, coordinate frames, and coordinate systems to calculate ground truth pose annotations.
   - Configured foundation model to run on synthetic data. Recorded Rotation Angle Error of 0.674 degrees and Translation Error of 0.655mm on Robot hand pose estimation.
3. **Regularization, Hyperparameter Tuning of Low Rank Autoregressive Models**, Advisor: Prof. Matt Golub
   - Led regularization and tuning (L2 lambda, epochs, learning rate, weight initialization, k time steps) for low-rank auto-regressive models. My best model resulted in 25% performance improvements (MSE) over the lab's baseline models.
4. **Image Processing for Fisheye Camera Image Object Detection**, Advisor: Prof. Jenq Neng Hwang
   - Used OpenCV image processing to transform images and trained YOLOv8 Object Detection models to achieve a 9% improvement (mAP) in roadside object detection in night-time images.

Data Structures Teaching Assistant at **University of Washington** — *Sep 2024 - Dec 2024*

Field Applications Engineer at **Texas Instruments** — *Feb 2023 - June 2023*
- Led technical support and design for low power chips and sensors for Microsoft HoloLens and Intel DCAI customers.

PROJECT EXPERIENCE

Image-Captioning Tactical Advisor Model ICTAM — *April 2025 - Present*
- Training GIT and BLIP image captioning LLMs on StarCraft Minimap images with tactical analysis captions.
- Built data pipeline to crop minimaps from YouTube videos, and annotate tactical analysis captions.

3D Open Vocabulary 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 — *Jan 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"