Andrew Jeon

LinkedIn: linkedin.com/in/andrewjjeon/ Email: andrewjjeon@gmail.com Webpage: andrewjjeon.github.io Mobile: +1 (971) 777 1218

EDUCATION

University of Washington, Electrical and Computer Engineering

Seattle, WA

Master of Science in Electrical Engineering (Machine Learning, Computer Vision, Robotics)
CSE546: Machine Learning, CSE576: Computer Vision, CSE571: AI-Robotics, EEP596B: Deep Learning for Big Visual Data, EEP596D: Computer Vision EEP596A: Deep Learning, EEP590: Data Structures & Algorithms, EEP567: Machine Learning for Cybersecurity, EEP599: Independent Research

University of Illinois at Urbana-Champaign, Electrical and Computer Engineering

Urbana, IL

Bachelor of Science in Electrical Engineering

August 2016 - May 2021

September 2023 - Present

SKILLS

Languages: Python, C++, C

Tools: Pytorch, Git, Pybullet, ROS, Rviz, Scikit-learn, Numpy, MatPlotLib, OpenCV, Container, Linux, SLAM, YOLOv8

WORK EXPERIENCE

Research Assistant at University of Washington

December 2024 - Present

- 1. Sensor Fusion for Autonomous Rover Navigation, 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.

Researcher at Nvidia, University of Washington

September 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.
 - Generating synthetic data, ground truth pose matrices, and robot camera frame visualization with Pybullet for evaluation.

Researcher at University of Washington

January 2024 - September 2024

- 1. 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.
- 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.

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 into product strategy.

Product Applications Engineer at Tektronix

April 2022 - February 2023

- Led technical support and development of marketing material for the 1 and 2 class oscilloscopes.
- Led product financial forecasting with CRM to evaluate product strategy.

Automation Engineer at Burns & Mcdonnell

June 2021 - April 2022

• Led design of SCADA control and data networks for key utility clients, BPA and PGE.

PROJECT EXPERIENCE

3D Semantic Segmentation for Robot Navigation

March 2023 - June 2023

 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 navigation in 3D

Military Target Classification

January 2023 - March 2023

- 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"

or "foe."

PUBLICATIONS

Jeong, K. & Jeon, A. Case Study of User Experience Requirement Creation at Early Phases of System Development
Life Cycle for Quick Turnaround. Human-Automation Interaction: Manufacturing, Services and User Experience (In
Springer ACES Series) Editors: VG Duffy, Mark R. Lehto, Yuehwern Yih, Robert W. Proctor