Woojeh Chung

woojehchung@gmail.com — Website — Google Scholar — LinkedIn — GitHub

Research Interest

My research interest is in Robot Learning and Foundation Models, with a focus on enabling robots to execute long-horizon tasks that span multiple stages and environments (e.g., household manipulation, mobile robots). My long-term goal is to develop robotic systems that can autonomously plan, adapt, and act across extended temporal and spatial horizons, often leveraging foundation models in vision, language, and/or action.

Education

University of California, San Diego 09/2024 - 06/2026 (Expected)
Master of Science in Computer Science — Advisor: Prof. Nikolay Atanasov
GPA: 3.96/4.00

Arizona State University 08/2020 - 05/2024
Bachelor of Science in Computer Science, Minor in Statistics
GPA: 4.00/4.00 **(Summa Cum Laude)**

Publications

[1] **Seeing the Bigger Picture: 3D Latent Mapping for Mobile Manipulation Policy Learning**
Sunghwan Kim, Woojeh Chung, Yulun Tian, Zhirui Dai, Arth Shukla, Hao Su, Nikolay Atanasov
*RSS RoboReps Workshop (**Best Paper Nomination**)* 2025, *ICRA 2026 (in review)* [PDF]

[2] **Unsupervised Object Segmentation for Video With Atmospheric Turbulence**
Dehao Qin, Ripon Kumar Saha, Woojeh Chung, Suren Jayasuriya, Jinwei Ye, Nianyi Li
European Conference on Computer Vision (**ECCV**) 2024 [PDF]

Research Experience

Graduate Research Assistant San Diego, CA
University of California, San Diego — Advisor: Prof. Nikolay Atanasov 10/2024 - Present

- Developing reward learning pipeline leveraging 3D semantic scene understanding to improve sample efficiency and task performance in long-horizon robotic manipulation
- Developed foundation model-based 3D semantic mapping system for mobile manipulation, enabling efficient spatio-temporal reasoning and environment perception

Machine Learning Researcher Tempe, AZ
Alphacore Inc — Advisor: Prof. Suren Jayasuriya 09/2023 - 05/2024

- Advanced CNN model adaptation to estimate the refractive-index structure constant C_n^2, employing specialized infrared imaging to analyze atmospheric image disturbances; Partnered with the Imaging Lyceum lab and industry experts to develop real-time C_n^2 estimation pipeline for long-range segmentation

Fulton Undergraduate Research Initiative (FURI) Tempe, AZ
Undergraduate research intern — Advisor: Prof. Kookjin Lee 05/2023 - 05/2024

- Led a group of 3 as a research assistant on computer vision research on resolution-invariant classifiers using 60,000+ image datasets achieving 96.7% of SOTA accuracy
- Extended Functa using meta-learning with Implicit Neural Representations (INR) to achieve true resolution invariance across diverse multi-resolution datasetsof the SOTA accuracy

Work Experience

Amazon San Diego, CA
Jr. Applied Scientist 06/2025 - Present

- Designed a VLM-based model for multi-modal handling quality assurance serving 40K+ calls per day

Start-Up: UNIUS Tempe, AZ
Co-founder & Developer — [Website] 05/2023 - Present

- Launched on App Store across 3 countries, achieving 350+ downloads and generating 500+ daily impressions
- Engaging in ASU's Venture Devils program and successfully securing $1000 in funding

Envy Logic ltd Seoul, South Korea
Software Engineering Intern 07/2022 - 08/2022

- Implemented Image/video processing using OpenCV in Python. Tasks included object recognition and edge detection via the canny edge detection filter, enhancing data received from various network protocols

Teaching

Undergraduate Teaching Assistant Tempe, AZ
CSE 355: Introduction to Theoretical Computer Science Spring 2023

- Created instructional videos on NFA, PDA, MIPS pipeline, Java, and JavaScript (p5js) for additional assistance and conducted recitations and regular office hours for student support in debugging and environment setup

Undergraduate Teaching Assistant Tempe, AZ
CSE 230: Computer Organization and Assembly Language Spring 2023

- Assisted 700+ students in Java-based object-oriented programming, data structure course by holding weekly office hours

Undergraduate Teaching Assistant Tempe, AZ
CSE 205: Object-Oriented Programming and Data Structures Spring 2022, Fall 2022

- Assisted 700+ students in Java-based object-oriented programming, data structure course by holding weekly office hours

Undergraduate Teaching Assistant Tempe, AZ
FSE 100: Introduction to Engineering Fall 2021, Fall 2023

- Aided and led the class of 40+ students for JavaScript fundamentals

Project Experience

Robot Arm Manipulation Pipeline on Qualcomm RB3 - Demo San Diego, CA

- Worked with Qualcomm to design a lightweight 3D vision model into a ROS 2 closed-loop VLA pipeline on Qualcomm RB3, raising real-world manipulation accuracy, and demoed at a Qualcomm conference

Long-range Image with Turbulence Segmentation - Project Link Tempe, AZ

- Developed the Dynamic Object Segmentation in Turbulence (DOST) dataset, collecting custom imagery and conducting research on an unsupervised motion segmentation algorithm using epipolar geometry

Awards & Scholarships

New American University Scholarship Tempe, AZ
Arizona State University 08/2020 - 05/2024

- Offered to outstanding international students for academic support.

Dean's list : Fall 2020, Spring & Fall 2021, Spring & Fall 2022, Spring & Fall 2023, Spring 2024 Tempe, AZ
Arizona State University 08/2020 - Present

- Awarded to top-performing students each semester for outstanding achievement.

Skills

- **Relevant Coursework:** Search and Optimization, Robotics, Parallel Computation, Machine Vision & Pattern recognition, Data Structure & Algorithm, OOP, Linear Algebra, Probability
- **Robotics:** ROS 2 (Foxy, Humble), Jetson, RB3/5, Panda, Xarm6, Fetch
- **Programming:** Python, Pytorch, Tensorflow, C/C++, Java, R, JavaScript, Swift