Yunze (Lulu) Wei

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Research Interests

Computer Vision, 3D Geometry, Robotics

Education

Master of Science in Computer Science, University of Toronto Sep 2025 – Jan 2027 (expected)
Supervisor: Prof. Alec Jacobson
CGPA 4.00/4.00

Bachelor of Applied Science & Engineering, University of Toronto 2020 – 2025
Major in Engineering Science (Machine Intelligence) + PEY Co-op
Minor in Engineering Business
CGPA 3.72/4.00

Research Experience

MSc. Graduate Research Assistant *Advisor: Prof. Alec Jacobson* Sep 2025 - Current
Dynamic Graphics Project (DGP), University of Toronto

- Robust 4D reconstruction
  Improving robustness of motion reconstruction from casually captured monocular videos in scenes containing multiple moving objects.

Undergraduate Research Student *Advisor: Prof. Igor Gilitschenski* Jan 2024 – Apr 2025
Toronto Intelligent Systems Lab, University of Toronto

- *B.A.Sc. Thesis*: Extracting skill features from human video prompts for imitation learning
  Learning video representations to allow robot one-shot task imitation by observing human demonstrations conditioned on diffusion policy.

- *Independent Project*: Morphology-conditioned robotic grasping
  Novel architecture for cross-embodiment robotic grasping that leverages end-effector morphology and geometry to improve generalization on unseen grippers during evaluation.

Undergraduate Research Assistant *Advisors: Prof. Greg Evans, Dr. Qin Liu* May - Aug 2022
Institute for Studies in Transdisciplinary Engineering Education, University of Toronto

- Learning effectiveness in hybrid instruction modes
  Conducted quantitative descriptive and inferential data analysis from survey data of ~250 undergraduate engineering students to identify contextual factors that contribute to learning effectiveness and efficiency

Publications

Y. Wei, M. Attarian, and I. Gilitschenski, "GeoMatch++: Morphology Conditioned Geometry Matching for Multi-Embodiment Grasping," in *CoRL Workshop on Learning Robot Fine and Dexterous Manipulation: Perception and Control*, Munich, Germany, 2024. Available: https://arxiv.org/abs/2412.18998

Q. Liu, G. Evans, **Y. Wei**, M. Moghaddas, K. Mistry, and T. Kecman, "Engineering Students' Perceptions of Learning Effectiveness: Implications from the Lived Experiences Amidst a Mixture of In-Person and Online Instruction," in *Proceedings of the American Society for Engineering Annual Conference & Exposition,* Baltimore, MD, 2023. Available: https://peer.asee.org/43349

Presentation

"What Contextual Factors Influenced Learning Effectiveness and Efficiency? Perceptions of Engineering Students During the Pandemic," Undergraduate Engineering Research Day (UnERD), University of Toronto, Aug. 2022.
Awarded Best Podium Presentation – Engineering Education Category

Work Experience

Digital Analytics Co-op Student May 2023 – May 2024
Manulife Canada

- Enabled self-serve reporting capabilities to key stakeholders by innovating analytics dashboards and customizing data visualizations using Domo and Adobe Analytics
- Created new customized dashboards for site launches to enable analytics on campaigns and KPIs
- Led an initiative to automate reporting for paid media marketing, saving 20-30h of manual work per month
- Created navigation menus of 80+ dashboards using HTML/JavaScript/CSS, improving experience for 300+ users

Teaching Experience

Teaching Assistant – Computer Graphics Sep – Dec 2025
University of Toronto

Skills

Programming Languages: Python (Proficient), C++ (Proficient), MATLAB
Frameworks and Tools: PyTorch, JAX, Git, LangChain, Neo4J, MuJoCo, IsaacGym
Professional: Research and synthesis, critical thinking, communication, project management, problem-solving
Languages: English (native), Mandarin (fluent), French (advanced), Japanese (intermediate)

Awards

Dean's Honour List, University of Toronto 2021 – 2025