

Leo Xu

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Education

University of Wisconsin–Madison

B.S. in Computer Science and Mathematics

GPA: 3.76/4.00

Sep 2023 – May 2027

Honors & Awards

Hilldale Undergraduate Research Fellowship

Apr. 2026

Dean's Honor List

Fall 2023 - Fall 2025

1st Place, ML + X Marathon @ UW–Madison

Dec. 2023

Publications

Learning to Assist: Collaborative VLAs for Implicit Human–Robot Collaboration

Leo Xu, Letian Li, Alex Cuellar, Mike Hagenow

CoRL 2026

SKiM-GPT: Combining Biomedical Literature-Based Discovery with Large Language Model Hypothesis Evaluation

Jack Freeman, Robert J. Millikin, Leo Xu, Ishaan Sharma, Bethany Moore, Lock Cannon, Kevin Shine George, Aviral Bal, Chitrasen Mohanty, Ron Stewart

BMC Bioinformatics, 2025

Workshop Papers & Conference Presentations

* Denotes equal contribution.

Exploring Collaborative VLAs for Data-Driven Implicit Human-Robot Collaboration

Leo Xu, Letian Li, Alex Cuellar, Mike Hagenow

ICRA 2026 Learning-HRI

Susceptibility of Adversarial Attack on Medical Image Segmentation Models

Zhongxuan Wang*, Leo Xu*

ISBI 2023

Research Experience

Robot Teaching and Teaming Lab

Sep. 2025 – Present

Research Assistant – Advised by Mike Hagenow

UW–Madison

- Led a CoRL 2026 study discovering the “action leakage” failure mode in action-chunked policies and developed an inference-time mitigation that reduced premature commitments by 6x
- Evaluated two VLAs across three collaborative assembly tasks in a 16-participant user study
- Built an 80 Hz ROS 2 control, data-collection, and policy-training stack used across the lab
- Designed and 3D-printed three collaborative assembly tasks to stress VLA capabilities and failure modes
- Researching automatic task allocation and proactive robot assistance from external camera views

ADAPT Lab

May 2025 – Dec. 2025

Research Assistant – Advised by Charith Mendis

UIUC

- Desugared 46 TASO rewrite rules into XLA-HLO in TensorRight DSL (verifies ML compiler tensor rewrites)
- Extended TensorRight with rank lower-bound constraints, enabling both rank-monomorphic and rank-polymorphic rewrite verification

Stewart Computational Biology Group

Feb 2024 – Oct. 2024

Research Assistant – Advised by Ron Stewart

Morgridge Institute for Research

- Curated synthetic biomedical reasoning and fine-tuned Phi-3, improving relevance-classification accuracy on paper abstracts from 68% to 86%
- Integrated the relevance model into the SKiM-GPT biomedical literature-discovery pipeline, contributing to a BMC Bioinformatics publication

Professional Experience

AWS Annapurna Labs

May 2026 – Aug. 2026

ML Compilers Intern

Cupertino, CA

- Built an MLIR simulator for Trainium compiler IR across eight dialects and approximately 35 lowering passes, modeling dynamic shapes, bufferization, and hardware-specific arithmetic
- Integrated the simulator for end-to-end validation and pass-level bisection, uncovering 4 latent production compiler bugs across 241 single-op StableHLO test suite

USAA

May 2025 – Aug. 2025

Data Analyst Intern

Plano, TX

- Forecasted auto-loan charge-offs from 18 years of data, reducing MAPE from 53% to 14% using ARMA modeling of roll-rate residuals

Relevant Coursework

† Denotes graduate-level coursework.

Robotics & Mathematics: Advanced Reinforcement Learning[†], Linear Systems[†], Autonomous Robotics, Information Theory, Stochastic Processes, Probability Theory, Real Analysis, Abstract Algebra, Numerical Linear Algebra, Algorithms

Systems: Advanced Operating Systems[†], HPC & CUDA[†], Computer Architecture, Big Data Systems, Computer Networks, PL Theory

Skills

Programming Languages Python, C++, C, CUDA, MATLAB, Verilog, Haskell

Frameworks & Systems PyTorch, JAX, ROS 2, TensorFlow, Linux, Onshape