

# Bryce Grant | EE PhD Candidate

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## EDUCATION & HONORS

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Case Western Reserve University

Cleveland, OH

PhD Student Robotics & CV

Expected: May 2028

Graduate Advisor: [Dr. Peng \(Edward\) Wang](#)

Graduate Honors: NSF Graduate Research Fellow (GRFP) Recipient, Advanced to Candidacy, NVIDIA Academic Grant

University of Kentucky – Magna Cum Laude, Lexmark Scholar

Lexington, KY

Dual B.S. in Computer Engineering and Electrical Engineering (CS, Math Minors)

Graduated: May 2024

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## PUBLICATIONS & PREPRINTS

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**TrianguLang: Geometry-Aware Semantic Consensus for Pose-Free 3D Localization**

[B. Grant](#), A. Rothenburg, A. Banerjee, P. Wang.

Under Review. [Website](#)

**Not All Features Are Created Equal: A Mechanistic Study of Vision-Language-Action Models**

[B. Grant](#), X. Zhao and P. Wang

*The Fourteenth International Conference on Learning Representations (ICLR), 2026.* [Website](#)

**Gluing Local Contexts into Global Meaning: A Sheaf-Theoretic Decomposition of Transformer Representation**

[B. Grant](#) and P. Wang

*The Fourteenth International Conference on Learning Representations (ICLR), 2026.*

**Quaternion Approximate Networks for Enhanced Image Classification and Oriented Object Detection**

[B. Grant](#) and P. Wang

*IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2025.* (Oral) [Website](#)

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## EXPERIENCE

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**Mercor**

Remote

*Applied AI Engineer Internship*

Aug. 2025 – Present

- Built automated reporting systems to quantify individual contractor throughput, task accuracy, and project lifecycles, optimizing budget efficiency for frontier LLM data collection
- Developed pipelines to aggregate and evaluate workforce metrics for multi-million dollar RLHF and SFT operations

**Case Western Reserve University**

Cleveland, OH

*Graduate Research Assistant*

Aug. 2024 – Present

- Sequential Planning via Anchored Robotic Keypoints: Developed an interpretable VLA planning framework using keypoint-anchored primitives with explicit failure recovery, implemented in MuJoCo with TrianguLang perception stack
- Developing a cooperative loco-manipulation framework for heterogeneous bimanual manipulation, with sim-to-real transfer via learned world models
- Supervising undergraduate research teams on robotic perception and manipulation pipelines

**HP**

Vancouver, WA

*PHD ML Intern*

May 2024 – Aug. 2024

- Deployed a hierarchical anomaly detection pipeline on AWS EC2 for enterprise multi-service cloud spend analysis, combining LSTM forecasting with STL decomposition to flag anomalies across accounts
- Engineered a comparative RAG framework: benchmarked semantic vs. recursive chunking, BM25 vs. FAISS retrieval, and LLM query expansion strategies, with evaluation via coherence and NDCG metrics
- Built a conversational printer setup agent with Mistral-7B: implemented dynamic reranking and multi-stage error recovery dialogue management for robust troubleshooting assistance
- Developed semantic search over 10K+ customer calls using BERT embeddings and topic modeling for R&D insights

**University of Kentucky**

Lexington, KY

*AI for Smart Manufacturing Lab Research Assistant*

Aug. 2023 – May. 2024

- Developed CNN-Transformer hybrid for 6-DOF pose estimation from RGB-D inputs for robotic arm manipulation
- Led navigation subsystem for autonomous telepresence robot, implementing 3D SLAM with servo-mounted LiDAR, achieving real-time mapping and dynamic obstacle avoidance in dynamic environments

**Honeywell**

Atlanta, GA

*Embedded Software Engineer Intern*

May. 2023 – Aug. 2023

- Developed bare-metal firmware API for life safety microcontroller (TI MSP430), supporting product line with 100K+ unit volume

- Validated dual-CPU communication protocols using oscilloscope debugging and hardware-in-loop testing

**ShopStock LLC**

*Co-Founder and Embedded Systems Developer*

Louisville, KY

Sept. 2020 – Sept. 2022

- Built hardware bridge using ESP-32 to retrofit legacy POS systems with real-time inventory tracking via custom firmware
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**SKILLS**

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**Programming Languages:** C/C++, CUDA, MATLAB, Python, SQL

**ML & Robotics:** FAISS, HuggingFace, Jax, Mjlab, OpenCV, Open3D, Pytorch, ROS2, TensorFlow, WandB

**Cloud, DevOps & Engineering:** Ansys, Autodesk, AWS, Docker, Linux, SolidWorks, Snowflake

**Domains & Methodologies:** Causal Inference, Computer Vision, Geometric Deep Learning, NLP, Robotics, Sequential Modeling

**Robotic Platforms:** Unitree Go2, UR10e, UR5e

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**SERVICE**

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**Conference Reviewer**

December 2024 – Present

- ICLR 2026, ICML 2026, IROS 2025, NAMRC 25-26

**Mathworks Student Ambassador**

October 2024 – Dec. 2025

- Hosted Hackathons and educational events while increasing MATLAB brand awareness across campus

**NSBE**

Lexington, KY

*Region III Finance Chair*

May 2023 – May. 2024

- Orchestrated a regional career fair with 50+ participating companies while raising over \$250,000 in revenue in six months