
EDUCATION

- **University of Virginia** Charlottesville, VA
B.S. in Computer Science; Major GPA: 3.98/4.00; Cumulative GPA: 3.91/4.00 *Aug. 2021 – May. 2025*
- **Relevant Coursework:** ML, RL (G), NLP (G), Probabilistic ML (G), Human-Robot Interaction (G), Optimization, Data Structures & Algorithms, Theory of Computation, Computer Systems Organization, Software Engineering

RESEARCH EXPERIENCE

- **Learning and Interactive Robotics, University of Virginia** Charlottesville, VA
Advisor: Prof. Yen-Ling Kuo *Aug 2024 - Present*
 - **Ongoing Senior Capstone:** Vision-Language-Action (VLA) model for robotic manipulation.
 - Investigating VLA model outputting both language and corresponding actions within a unified transformer output space, grounding both domains simultaneously at each timestep.
- **University of Maryland** College Park, MD
Advisor: Prof. Jia-Bin Huang *May 2024 - Present*
 - **Semantically Aware 3D Gaussian Splatting**
 - * Developed novel method to inject semantically aware embeddings into 3D Gaussian Splatting (3DGS) scenes for 3D understanding and segmentation tasks.
 - * Leveraged video segmentation from SAMv2 to maintain temporal consistency in injection of CLIP features from 2D training set to 3DGS scene, ensuring stable and accurate 3D embeddings.
- **Collaborative Robotics Lab, University of Virginia** Charlottesville, VA
Advisor: Prof. Tariq Iqbal *May 2022 - May 2024*
 - **Grounded Location for Object Manipulation (GLOMA)**
 - * Zero-shot image-editing model grounded by language instructions for object relocation and manipulation tasks, designed for downstream robotic applications using goal-conditioned RL.
 - * Integrated language grounding with visual perception using bounding box guidance from pre-trained language models, enabling precise object relocation without external supervision.
 - * Collected and annotated custom dataset for fine-tuning pre-trained language and vision models.
 - **Centralized multi-agent RL for Collaborative Tasks**
 - * Developed long-horizon on/offline centralized MARL for robotic bolt screwing tasks.
 - * Designed and optimized custom reward functions in multi-agent framework for task completion and agent collaboration.
 - * Deployed and tested custom simulated environments in IsaacGym for training and evaluation.

TEACHING EXPERIENCE

- **Teaching Assistant** *Aug 2024 - Present*
Machine Learning w/ Prof. Rich Nguyen
 - Authored comprehensive course notes to support student learning and understanding.
- **Teaching Assistant** *Jan 2024 - May 2024*
Theory of Computation w/ Prof. Mark Floryan
 - Held weekly office hours and review sessions to assist students with course material.
- **Lab Lead Teaching Assistant** *Jan 2023 - May 2023*
Computer Systems Organization w/ Prof. John Hott
 - Led weekly lab sections with short lectures and hands-on activities for 70+ students.

HONORS

- **Dean's Engineering Research Scholarship (\$5000):** University of Virginia *May 2023*
- **University of Virginia Research Computing Exhibition Finalist:** University of Virginia *April 2024*
- **Entrepreneurship Cup Winner (Given \$1000 in funding):** University of Virginia *November 2023*
- **Dean's List:** University of Virginia

PRESENTATIONS

- **Mechanistic Interpretability in Large Language Models**
 - University of Virginia Research Computing Exhibition, Charlottesville, VA *April 2024*
- **GLOMA: Grounded Location for Object Manipulation**
 - University of Virginia Fall Engineering Research Expo, Charlottesville, VA *October 2023*
 - University of Virginia Spring Thornton Society Dinner, Charlottesville, VA *September 2023*
 - University of Virginia Summer Research Symposium, Charlottesville, VA *July 2023*
- **Robot Tool Grasping with AprilTag**
 - University of Virginia Engineering Open House, Charlottesville, VA *November 2023*
 - University of Virginia Engineering Open House, Charlottesville, VA *November 2022*

SOFTWARE PROJECTS

- **notie-markdown:** Open-source React component for Markdown rendering, built with TypeScript.
- **SmartOH:** AI-assisted office hour queueing system, built with Python, PyTorch, and TypeScript. Placed 3rd at VTHacks11.
- **Voy:** Volunteer and driver management platform for non-profits, built with Python and TypeScript. Received funding from UVA's Entrepreneurship Cup.

PROGRAMMING SKILLS

- **Languages:** Python, C/C++, Java, JavaScript, TypeScript, HTML/CSS
- **Technologies:** PyTorch, TensorFlow, Linux, Git, Docker, \LaTeX
- **Web Technologies:** React, Node.js, Express, Django