

## EDUCATION

---

- **University of Virginia** Charlottesville, VA  
*Bachelor of Science in Computer Science; 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 (Awarded \$5000):** University of Virginia
- **Entrepreneurship Cup Winner (Given \$1000 in funding):** University of Virginia
- **Dean's List:** University of Virginia
- **National Merit Scholar:**

## PRESENTATIONS

---

- **GLOMA: Grounded Location for Object Manipulation:** RSS 2023
- **Centralized Multi-Agent Reinforcement Learning for Collaborative Tasks:** ICRA 2023

## PROJECTS

---

- **QuantSoftware Toolkit:** Open source python library for financial data analysis and machine learning for finance.
- **Github Visualization:** Data Visualization of Git Log data using D3 to analyze project trends over time.
- **Recommendation System:** Music and Movie recommender systems using collaborative filtering on public datasets.

## PROGRAMMING SKILLS

---

- **Languages:** Scala, Python, Javascript, C++, SQL, Java      **Technologies:** AWS, Play, React, Kafka, GCE