

Education

University of Texas at Austin

BS in Computer Science, Turing Scholar (CS Honors)

Aug 2019 – May 2023

Austin, TX

Research Experience

Research Assistant under Dr. Joydeep Biswas

Jan 2020 – Present

- **Project 1:** Machine learning for efficient optimal kinodynamic motion planning (Published in AAMAS 2022)
- **Project 2:** Dynamics learning and optimization for high-speed accurate robot control (Published in IROS 2022)
- **Project 3:** Computer vision and inverse dynamics learning for cross-terrain navigation (Published in IROS 2022)
- **Project 4:** Program synthesis for state-of-the-art multi-objective reinforcement learning (In progress)
- **Project 5:** Pushing the limits of high speed, pinpoint accurate ground robot control (In progress)

Research Assistant under Dr. Yuke Zhu

Jan 2022 – Present

- **Project 1:** Joint pose estimation and novel view synthesis for few-view 3D reconstruction (In progress)
- **Project 2:** Imitation learning with past experience retrieval using cross-attention (In progress)

Research Assistant under Dr. Eunsol Choi

Jun 2022 – Present

- **Project 1:** Intelligent prompting of Large Language Models for high-recall, multi-answer QA (In progress, towards undergraduate honors thesis)

Publications

Atreya, P., Karnan, H., Sikand K., Xiao X., Rabiee, S., & Biswas, J. High-Speed Accurate Robot Control using Learned Forward Kinodynamics and Non-linear Least Squares Optimization. *2022 IEEE/RSJ International Conference on Intelligent Robots and Systems*.

Karnan, H., Sikand K., **Atreya, P.**, Rabiee, S., Xiao X., Warnell, G., Stone, P., & Biswas, J. VI-IKD: High-Speed Accurate Off-Road Navigation using Learned Visual-Inertial Inverse Kinodynamics. *2022 IEEE/RSJ International Conference on Intelligent Robots and Systems*.

Atreya, P., & Biswas, J. 2022. State Supervised Steering Function for Sampling-based Kinodynamic Planning. In Proceedings of the 21st International Conference on Autonomous Agents and Multiagent Systems (AAMAS '22). International Foundation for Autonomous Agents and Multiagent Systems, Richland, SC, 35–43.

Work Experience

Software Engineering Intern at Citi

Jun 2022 – Aug 2022

Summer Research Intern at Autonomous Mobile Robotics Laboratory

Jun 2021 – Aug 2021

Summer Research Intern at Autonomous Mobile Robotics Laboratory

Jun 2020 – Aug 2020

Independent Researcher/Science Fair Competitor

Jan 2017 – May 2019

Honors/Awards

2022 Winner of the Capital of Texas Undergraduate Research Conference (CTURC)

2021 Best Virtual Reality Hack @Hack The Northeast | Best iOS App @Orion Hacks

2019 First Award, Physical Science & Engineering, Synopsys Technology Championship | Mu Alpha Theta Award for Excellence in Mathematics | AP National Scholar with Distinction, National Merit Scholarship Commended

2018 Honorable Mention, Computational Systems & Analysis, California Science and Engineering Fair | First Award, Biological Science & Engineering, Synopsys Technology Championship | Naval Science Award, United States Navy & Marine Corps | Recognition for Science Research, Mayor of Cupertino

2017 Special Congressional Recognition - Congressional App Challenge | Inspire Award, Silicon Valley Regional Robotics Competition | USA Computing Olympiad (USACO) Gold Level

Service

Co-organizer, 11th Annual F1TENTH Racing Competition at CPS-IoT Week 2023

2022 – 2023

Reviewer for IROS

2022

AURA-Texas Representative at UT Austin

2022 – Present

Student Research Ambassador at UT Austin

2021 – Present

Volunteer at Kaiser Permanente Hospital

2018 – 2019

Teaching Assistant for AP Calculus BC and AP Physics C

2017 – 2019