Evanns Morales-Cuadrado

U.S. Citizen

Robotics PhD Student
Georgia Institute of Technology

CONTACT

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Research Website: https://www.evannsmc.com/

SKILLS

- **Programming Languages:** Python, C/C++, Matlab/Simulink
- **Frameworks & Libraries:** JAX, PyTorch, acados, CasADi, ROS 2, PX4, ArduPilot
- **Development & DevOps Tools:** Docker, Continuous Integration, Git/GitHub
- **Hardware & Experimentation:** UAV assembly, repair, and deployment
- **Motion-Capture:** OptiTrack and Vicon
- **Languages:** Spanish (Native), English (Native)

EDUCATION

Georgia Institute of Technology | 2022-2027

Ph.D. in Robotics

- GPA: 4.0/4.0
- Advisor: Dr. Samuel Coogan
- Goizueta Fellow

University of Texas at Arlington | 2018-2022

Honors Bachelor of Science in Electrical Engineering
Minor in Mathematics
Minor in Physics
Certificate in Unmanned Vehicle Systems

- GPA: 3.9/4.0 Summa Cum laude
- Full National Merit Scholarship Awarded
- Electrical Engineering Honors Scholar

WORK EXPERIENCE

Graduate Research Assistant at FACTS Lab — August 2022 - Present
Georgia Institute of Technology — Atlanta, GA

- Advised by Dr. Samuel Coogan
- Implemented novel aggressive tracking control methods on quadrotor hardware
- Developed novel nonlinear control methods for safe autonomy
- Published and presented novel research at top conferences and journals in the fields of robotics and control theory

Teaching Assistant for Vertically Integrated Project in Robotics — January 2024 - Present
Georgia Institute of Technology — Atlanta, GA

- Aided professor in his instruction of this research-based course
- Provided promising undergraduates with guidance performing applied research in the field of robotics
- Taught control theoretical concepts in an accessible manner for undergraduates
- Provided hands-on mentoring in hardware implementations
- Inspired the next generation of robotics researchers

Research Assistant at Autonomous Systems Lab — November 2021 - May 2022
University of Texas at Arlington — Arlington, TX

- Advised by Dr. Frank Lewis
- Received personal mentorship from a leading researcher in the field of controls and reinforcement learning (ranked 12th in the USA and 23rd in the world during my time in his lab)
- Aided graduate students on reinforcement learning research applied to quadrotor control

Teaching Assistant for Graduate-Level Intelligent Systems Course January 2022 - May 2022
University of Texas at Arlington Arlington, TX

- Aided professor in his instruction of the course
- Hosted review sessions for students in preparation for exams
- Graded homeworks, exams, and projects
- Gained teaching experience in a graduate-level course while still an undergraduate

Research Assistant at Dynamical Networks and Control Lab October 2019 - May 2022
University of Texas at Arlington Arlington, TX

- Advised by Dr. Yan Wan
- Gained experience with Robot Operating System (ROS), OpenCV, and path planning
- Original research in learning-based minimum time and energy path-planning for multi-vehicle systems

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SELECTED PUBLICATIONS

E. Morales-Cuadrado, C. Llanes, Y. Wardi and S. Coogan, "Newton-Raphson Flow for Aggressive Quadrotor Tracking Control." 2024 American Control Conference (ACC)

L. Baird, **E. Morales-Cuadrado**, and S. Coogan, "Runtime Assurance for Uncertain Systems from Interval Signal Temporal Logic." Submitted to IEEE Transactions on Robotics. *(under revision)*

E. Morales-Cuadrado, L. Baird, Y. Wardi and S. Coogan, "Lightweight Tracking Control for Computationally Constrained Aerial Systems with the Newton-Raphson Method." Submitted to IEEE Transactions on Control Systems Technology. a*rXiv preprint available. (under revision)*

RESEARCH INTERESTS

- Safe Autonomy
- Hardware Deployment
- Unmanned Ground and Aerial Vehicles
- Advanced Nonlinear and Learning-Based Control
- Trajectory Generation and Planning

SERVICE

Co-Founder and Vice President of Puerto Rican Student Association August 2024 - Present
Georgia Institute of Technology Atlanta, GA

- Addressed the need for an organization to help Puerto Rican students feel at home and stay connected to our culture
- Formed a three-member co-founder board and identified a faculty advisor
- Raised funds for the organization and recruited members from campus
- Hosted professional, social, and cultural events to meet the needs of the growing Puerto Rican student population at Georgia Tech

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HONORS AND AWARDS

Top-3 Finalist at Deep Learning Research Symposium in CS7643 at Georgia Tech November 2023
Professor-sponsored award for novel research in deep learning and robotics

Goizueta Fellowship at Georgia Tech August 2022
Highly selective fellowship for graduate students of Latin-American descent

Summa Cum Laude Honors at University of Texas at Arlington May 2022
Arlington, TX

Electrical Engineering Honors Scholar at University of Texas at Arlington December 2021
Inaugural member of the electrical engineering honors cohort

Chance Vought Engineering and Science Endowment Scholarship August 2020
Yearly scholarship for one sophomore, one junior, and one senior student
in Engineering at the University of Texas at Arlington

National Merit Scholar & National Hispanic Scholar March 2018
Recognition of top national performers on the SAT and Pre-SAT