

Evanns Morales-Cuadrado

U.S. Citizen

Robotics PhD Student

Georgia Institute of Technology

CONTACT

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Github: <https://github.com/evannsm>

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

Atlanta, GA

Georgia Institute of Technology

- 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

Atlanta, GA

Georgia Institute of Technology

- 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

Arlington, TX

University of Texas at Arlington

- 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

University of Texas at Arlington

- 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

January 2022 - May 2022

Arlington, TX

Research Assistant at Dynamical Networks and Control Lab

University of Texas at Arlington

October 2019 - May 2022

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

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. *arXiv preprint available.* (*under revision*)

RESEARCH INTERESTS

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

SERVICE**Co-Founder and Vice President of Puerto Rican Student Association**

Georgia Institute of Technology

August 2024 - Present

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

Undergraduate Research Mentor

University of Texas at Arlington

August 2021 - May 2022

Arlington, TX

- As the lead undergraduate student Dr. Frank Lewis' Autonomous Systems Lab, I mentored junior undergrads in controls research and guided them on a research project in ground vehicle control
- Guided students in Robot Operating System, Python, Linux, and Control Systems

Eta Kappa Nu - Public Relations Chair & Circuits I Tutor

University of Texas at Arlington

August 2020 - May 2022

Arlington, TX

- Executive board member of UT Arlington's IEEE-HKN chapter
- In charge of social media advertising for honor society's events and outreach initiatives for the electrical engineering student body
- Volunteered to provide free tutoring as a service to electrical engineering students in the Circuits I course

HONORS AND AWARDS

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

November 2023

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

August 2022

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

May 2022

Honors College Degree Requirements at University of Texas at Arlington
Completed research projects in disparate fields throughout my undergraduate career with various professors and defended a senior capstone research project before the Honors College committee

December 2021

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

December 2021

IEEE-HKN International Electrical Engineering Honor Society Membership
Joined in first year of eligibility. Honors society for electrical engineering undergraduate juniors and seniors with a history academic and volunteering achievement

August 2021

Research Experience for Undergraduates Fellowship Recipient
Fellowship to sponsor promising young undergraduate researchers

August 2020

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

August 2020

Toray Composite Materials America Inc. Sons and Daughters Scholarship
Academic scholarship awarded children of employees of Toray America

May 2019

James E. Casey Scholarship Recipient
Academic scholarship awarded children of employees of UPS

January 2019

James R. Hoffa Memorial Scholarship Recipient
Academic scholarship awarded children of Teamsters Union Members

May 2018

Grapevine, TX Rotary Club Scholarship Recipient
Local rotary club scholarship for academic and civically-minded scholars

May 2018

National Hispanic Recognition Program
Recognition of top national performers of Latin descent on the SAT and Pre-SAT

March 2018

National Merit Scholar
Recognition of top national performers on the SAT and Pre-SAT

March 2018