

# Victor Qin

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## Education

2023 – present	PhD Candidate, Aerospace Engineering, DINaMo Lab Massachusetts Institute of Technology
2021 – 2023	MS, Aerospace Engineering, DINaMo Lab Massachusetts Institute of Technology
2017 – 2021	SB <i>cum laude</i> , Electrical Engineering; Secondary, Government Harvard University

## Honors and Awards

2023	NSF Graduate Research Fellowship
2022	Mathworks Fellowship, MIT AeroAstro
2021	Honorable Mention, NSF Graduate Research Fellowship Program
2021	Departmental Highest Honors in Electrical Engineering
2021	Departmental Honors for Senior Thesis in Electrical Engineering
2019	Harvard PRISE Research Fellowship

## Journals Publications and Preprints

1. V. Qin\*, G. Ding, Balakrishnan. “[Market Structures for Service Providers in Advanced Air Mobility](#),” Journal of Air Transportation, June 2024.
2. C. Chin\*, V. Qin\*, K. Gopalakrishnan, H. Balakrishnan. “[Decentralized and Cost-Aware Traffic Management Protocols for Advanced Air Mobility](#),” Frontiers in Aerospace Engineering vol. 2, pp.1176969, May 2023

## Peer-reviewed Conference Publications

1. V. Qin\*, H. Balakrishnan. “[Modeling Competition Between Service Providers in Advanced Air Mobility](#),” 11<sup>th</sup> International Conference on Research in Air Transportation 2024, Singapore. *Best Paper in Economics, Environment and Information Track*.
2. S. Dolan, V. Qin, G. Ding, H. Balakrishnan. “[Satellite Collision Avoidance Using Repeated Games](#),” 2023 AAS/AIAA Astrodynamics Specialist Conference, August 2023, Big Sky MT
3. V. Qin\*, G. Ding, H. Balakrishnan. “[Market Structures for Service Providers in Advanced Air Mobility](#),” 15<sup>th</sup> USA/Europe Air Traffic Management Research and Development Seminar 2023, June 2023, Savannah GA
4. V. Qin\* and H. Balakrishnan. “[Cost-Aware Congestion Management Protocols for Advanced Air Mobility](#),” 10<sup>th</sup> International Conference on Research in Air Transportation 2022, Tampa FL
5. T. Zhang, V. Qin, Y. Tang and N. Li, “[Source Seeking by Dynamic Source Location Estimation](#),” 2021 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2021, pp. 2598-2605, Prague

\*(co-)first author

## Invited Talks and Presentations

1. “Modeling Competition Between Service Providers in Advanced Air Mobility”, 11<sup>th</sup> International Conference on Research in Air Transportation (ICRAT), July 2024, Singapore
2. “Market Structures for Service Providers in Collective Autonomous Mobility”, Clean Slate Approaches to Crewed and Uncrewed Air Traffic Management Seminar, September 2023, UC Berkeley, Berkeley CA
3. “Market Structures for Service Providers in Collective Autonomous Mobility”, 15<sup>th</sup> USA/Europe Air Traffic Management Research and Development Seminar (ATM), June 2023, Savannah GA
4. “Mechanisms for Cooperative Routing of Unmanned Aerial Systems”, Institute for Operations Research and the Management (INFORMS) Sciences Annual Meeting, Oct. 2022, Indianapolis IN
5. “Cost-Aware Congestion Management Protocols for Advanced Air Mobility”, NASA ULI Review on Autonomous Air Cargo, Aug. 2022, Austin TX
6. “Cost-Aware Congestion Management Protocols for Advanced Air Mobility”, 10<sup>th</sup> International Conference on Research in Air Transportation, June 2022, Tampa FL
7. “Multi-Agent Source Seeking using Zeroth Order Gradient Descent”, presented at Northeastern Robotics Conference 2019, Oct. 2019, Philadelphia PA

## Advising

David Andrade, Jonathan Collins, and Grace Kim, 09/2022 – 04/2023. Reader for Harvard undergraduate senior design thesis “Machining and Optimizing a GNC Subsystem for the CaliPER Calibration Satellite of Europa Clipper.” Dean’s Award for Outstanding Engineering Project.

Nino Medina, 06/2022 – 09/2022. Guided research on reinforcement learning for drone routing and delivery, which was presented to MIT and NASA stakeholders.

## Teaching

CS 289: Multi-Agent Robotics, Teaching Fellow (Harvard Fall 2020, graduate)

ES 156: Signals and Communications, Teaching Fellow (Harvard, Spring 2020, undergrad)

ES 155: Systems and Controls, Teaching Fellow (Harvard, Fall 2019, undergrad)

## Conferences and Seminars

May 2024	Future Leaders in Aerospace 2024	(Stanford)
May 2024	AI-SCORE Summer School	(University of Maryland)

## Professional Experience

2023-present	Research Team Member, Curated Innovation	(remote)
2023	GNC Intern, Starfish Space	(Tukwila, WA)
2021-2022	Platform Intern, The Engine	(Cambridge, MA)
2020	Systems Intern, Raytheon	(Los Angeles, CA)

## Outreach Activities

Academic and Professional Development Chair, Graduate AeroAstro Association (GA<sup>3</sup>)

Chair for graduate student association, responsible for organizing events and representing academic and professional concerns.

AeroAstro First-Year Pre-Orientation Program (FPOP)

Lead mentor for FPOP, introducing interested incoming freshman to the AeroAstro department through rocket and airplane competitions.