

# James Queeney

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## RESEARCH SKILLS

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I am interested in developing reliable, data-driven algorithms for decision making and control, with applications in robotics. My research focuses on the need for robustness, safety, and generalization in robot learning frameworks, including deep reinforcement learning, imitation learning, and self-supervised learning. I have explored these topics for single-agent robotic control and multi-agent robot coordination.

- **Research Areas:** deep reinforcement learning, imitation learning, self-supervised learning, robust data-driven optimization and control, uncertainty quantification, robotics
- **Programming Languages:** Python, MATLAB, R
- **Software Experience:** Gurobi, Isaac Lab, MuJoCo, PyTorch, Ray, TensorFlow
- **Hardware Experience:** sim-to-real policy transfer on Unitree Go2 quadruped robot

## EDUCATION

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**Boston University** Aug 2023

*PhD in Systems Engineering*

- Dissertation: “Reliable deep reinforcement learning: Stable training and robust deployment”

**Boston University** Jan 2022

*MS in Systems Engineering*

**Colgate University** May 2013

*BA in Mathematics and Mathematical Economics*

- Class of 2013 Valedictorian, Honors in Mathematics, Phi Beta Kappa, Summa Cum Laude

## RESEARCH EXPERIENCE

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**Research Scientist** 2025 – Present

*Amazon Robotics*

- Topic: Optimization, planning, and task assignment for multi-agent robotic systems

**Postdoctoral Research Fellow** 2023 – 2025

*Mitsubishi Electric Research Laboratories*

- Topic: Robustness, safety, and generalization in learning-based robotic control

**Research Affiliate** 2023 – 2025

*Massachusetts Institute of Technology – Host: Jonathan How*

- Topic: Uncertainty-aware learning for robust planning and control of mobile robots

**Doctoral Research Fellow** 2019 – 2023

*Boston University – Advisors: Ioannis Paschalidis, Christos Cassandras*

- Topic: Reliable deep reinforcement learning with performance guarantees

**Research Intern** Summer 2022

*Mitsubishi Electric Research Laboratories – Host: Mouhacine Benosman*

- Publication: “Risk-averse model uncertainty for distributionally robust safe reinforcement learning”

**Research Assistant** 2017 – 2018  
*Colgate University – Host: William Cipolli*  
• Topic: Bayesian non-parametric approaches to supervised learning with Polya trees

## INDUSTRY EXPERIENCE

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**Director of Operations Research** 2017 – 2018  
*Bargain Hunt*

**Private Equity Associate** 2015 – 2017  
*Thomas H. Lee Partners – Consumer & Healthcare Group*

**Investment Banking Analyst** 2013 – 2015  
*Bank of America Merrill Lynch – Mergers & Acquisitions Group*

## TEACHING AND OUTREACH

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**CISE Graduate Student Workshop Organizer** Jan 2023  
*Boston University Center for Information & Systems Engineering*

**Graduate Teaching Fellow** Fall 2022  
*Boston University – Optimization Theory and Methods (SE 674)*

**Research Mentor** Summer 2021  
*Boston University Research in Science & Engineering Program*

**Graduate Teaching Fellow** Fall 2019  
*Boston University – Introduction to Programming for Engineers (EK 125)*

## PUBLICATIONS

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### Peer-Reviewed Publications

- Queeney, J., Cai, X., Schperberg, A., Corcodel, R., Benosman, M., and How, J. P. (2026). GRAM: Generalization in deep RL with a robust adaptation module. *IEEE Robotics and Automation Letters (RA-L)*.
- Giammarino, V., Queeney, J., and Paschalidis, I. C. (2025). Visually robust adversarial imitation learning from videos with contrastive learning. In *IEEE International Conference on Robotics and Automation (ICRA 2025)*.
- Cai, X., Queeney, J., Xu, T., Datar, A., Pan, C., Miller, M., Flather, A., Osteen, P. R., Roy, N., Xiao, X., and How, J. P. (2025). PIETRA: Physics-informed evidential learning for traversing out-of-distribution terrain. *IEEE Robotics and Automation Letters (RA-L)*.
- Queeney, J., Paschalidis, I. C., and Cassandras, C. G. (2025). Generalized policy improvement algorithms with theoretically supported sample reuse. *IEEE Transactions on Automatic Control (TAC)*.
- Ozcan, E. C., Giammarino, V., Queeney, J., and Paschalidis, I. C. (2024). A model-based approach for improving reinforcement learning efficiency leveraging expert observations. In *63rd IEEE Conference on Decision and Control (CDC 2024)*.
- Giammarino, V., Queeney, J., and Paschalidis, I. C. (2024). Adversarial imitation learning from visual observations using latent information. *Transactions on Machine Learning Research (TMLR)*.
- Queeney, J., Ozcan, E. C., Paschalidis, I. C., and Cassandras, C. G. (2024). Optimal transport perturbations for safe reinforcement learning with robustness guarantees. *Transactions on Machine Learning Research (TMLR)*.

- Queeney, J. and Benosman, M. (2023). Risk-averse model uncertainty for distributionally robust safe reinforcement learning. In *Advances in Neural Information Processing Systems (NeurIPS 2023)*.
- Giammarino, V., Queeney, J., Carstensen, L. C., Hasselmo, M. E., and Paschalidis, I. C. (2023). Opportunities and challenges from using animal videos in reinforcement learning for navigation. In *The 22nd World Congress of the International Federation of Automatic Control (IFAC 2023)*.
- Queeney, J., Paschalidis, I. C., and Cassandra, C. G. (2021). Generalized proximal policy optimization with sample reuse. In *Advances in Neural Information Processing Systems (NeurIPS 2021)*.
- Queeney, J., Paschalidis, I. C., and Cassandra, C. G. (2021). Uncertainty-aware policy optimization: A robust, adaptive trust region approach. In *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI 2021)*.

### Preprints

- Chen, Y., Giammarino, V., Queeney, J., and Paschalidis, I. C. (2024). Provably efficient off-policy adversarial imitation learning with convergence guarantees. arXiv:2405.16668.

### Dissertation

- Queeney, J. (2023). *Reliable deep reinforcement learning: Stable training and robust deployment*. PhD thesis, Boston University.

### PRESENTATIONS

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- Reliable deep reinforcement learning for robotics (2025). *Amazon Robotics Invited Talk*, Virtual.
- Risk-averse model uncertainty for distributionally robust safe reinforcement learning (2023). *37th Conference on Neural Information Processing Systems (NeurIPS 2023)*, New Orleans, LA.
- Reliable deep reinforcement learning: Stable training and robust deployment (2023). *Boston University Division of Systems Engineering PhD Final Defense*, Boston, MA.
- Reliable deep reinforcement learning with robustness and safety guarantees (2023). *Mitsubishi Electric Research Laboratories Invited Talk*, Cambridge, MA.
- Safe reinforcement learning with robustness guarantees (2023). *Massachusetts Institute of Technology Invited Talk*, Cambridge, MA.
- Balancing stability and efficiency in deep reinforcement learning (2023). *Harvard University Invited Talk*, Cambridge, MA.
- Stable and efficient reinforcement learning with principled sample reuse (2022). *CISE Graduate Student Workshop 8.0*, Boston, MA. **Best Presenter Award**.
- Robust and efficient reinforcement learning from limited data (2021). *Boston University Division of Systems Engineering PhD Prospectus Defense*, Boston, MA.
- Generalized proximal policy optimization with sample reuse (2021). *35th Conference on Neural Information Processing Systems (NeurIPS 2021)*, Virtual.
- Uncertainty-aware policy optimization: A robust, adaptive trust region approach (2021). *CISE Best Student Paper Awards Presentation*, Virtual. **Best Student Paper Award Finalist**.
- Uncertainty-aware policy optimization: A robust, adaptive trust region approach (2021). *35th AAAI Conference on Artificial Intelligence (AAAI 2021)*, Virtual.

## HONORS AND AWARDS

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- Doctoral Research Fellow, *Boston University* 2019 – 2023
- CISE Best Student Paper Award Finalist, *Boston University* 2022
- CISE Graduate Student Workshop Best Presenter Award, *Boston University* 2022
- CISE Best Student Paper Award Finalist, *Boston University* 2021
- Dean’s Fellowship Award, *Boston University* 2018 – 2019
- Class of 2013 Valedictorian, *Colgate University* 2013
- Osborne Mathematics Prize, *Colgate University* 2013
- Phi Beta Kappa Award, *Colgate University* 2013
- Phi Beta Kappa, *Colgate University* 2013
- Summa Cum Laude, *Colgate University* 2013
- Honors in Mathematics, *Colgate University* 2013
- John T. Mitchell Award, *Colgate University* 2012 – 2013
- Charles A. Dana Scholar, *Colgate University* 2011 – 2013
- Alumni Memorial Scholar, *Colgate University* 2009 – 2013
- Sisson Mathematics Prize, *Colgate University* 2010
- Dodge Prize, *Colgate University* 2010