Huy Quyen Ngo

PhD Candidate · Robotics

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Education

Carnegie Mellon University *Pittsburgh, PA*

PhD in Robotics, MS in Robotics *2021 - 2026 (expected)*

- Advisor: Dr. Aaron Steinfeld

University of Michigan *Ann Arbor, MI*

MS in Mechanical Engineering *2019 - 2021*

- Advisor: Dr. Wei Lu, Dr. Yong Sun

Nagoya University *Nagoya, Aichi, Japan*

BS in Electrical and Electronic Engineering and Information Engineering *2015 - 2019*

- Advisor: Dr. Hiroaki Takada

Research Experience

Carnegie Mellon University - The Robotics Institute *Pittsburgh, PA*

Advisor: Dr. Aaron Steinfeld *Aug. 2021 - Present*

- PhD Dissertation: "Modeling and Understanding Human Perception and Behavior Towards Robot Failures"

University of Michigan - Dept of Mechanical Engineering *Ann Arbor, MI*

Co-Advisors: Dr. Wei Lu, Dr. Yong Sun *2019-2021*

- Project: "Motion Planning and Control of Level 4 Autonomous Sweeping Truck"

Nagoya University - Dept of Electrical and Electronic and Information Engineering *Nagoya, Aichi, Japan*

Advisors: Dr. Hiroaki Takada *2015-2019*

- Undergraduate Thesis: "Adaptive Cruise Control Systems and Automatic Lane Keeping Systems for Autonomous Vehicles based on new method of Algebraic Pixel Difference on Processed Images"

Professional Experience

2024 **Research Scientist Summer Intern**, Honda Research Institute

2021 **Applied Scientist Summer Intern**, Aptiv LLC

Publications

Published

Ngo, H. Q., & Steinfeld, A. (2024, August). Joint Potential-Vector Fields for Obstacle-Aware Legible Motion Planning. In 2024 33rd IEEE International Conference on Robot and Human Interactive Communication (ROMAN) (pp. 1856-1863). IEEE.

Ngo, H. Q., Carter, E. J., & Steinfeld, A. (2024, November). Human Perception of Robot Failure and Explanation During a Pick-and-Place Task. In Proceedings of the AAAI Symposium Series (Vol. 4, No. 1, pp. 373-379).

Ngo, H. Q. (2024). Human Perception of Robot Failure and Explanation (Master's Thesis, Carnegie Mellon University Pittsburgh, PA).

In Review

Ngo, H. Q., & Soltani Zarrin, R. (2025). Multi-Modal Perception and Behavior Adaptation Models for Human State Understanding and Interaction Improvement in Robotic Touch. Submitted to 2024 IEEE International Conference on Robotics and Automation (ICRA). IEEE.

In Prep

Ngo, H. Q., Jayaraman, S.K., Martelaro, N., & Steinfeld, A. (2025). Multi-Modal Modeling and Detection of Human Startling Reactions to In-Vehicle Unexpected Events. Submitting to 2025 IEEE International Conference on Intelligent Robots and Systems (IROS). IEEE.

Scholarship

2019-2021 **Vingroup Master's Degree Scholarship**, Vingroup Corporation (Vietnam) *$ 160,000*

Presentations

** presenting author*

Contributed Presentations

Ngo, H. Q.*, Carter, E. J., & Steinfeld, A. 2024. Human Perception of Robot Failure and Explanation During a Pick-and-Place Task. Oral presentation: AAAI Fall Symposium Series, Washington, DC.

Ngo, H. Q.*, & Steinfeld, A. 2024. Joint Potential-Vector Fields for Obstacle-Aware Legible Motion Planning. Oral Presentation: The 33rd IEEE International Conference on Robot and Human Interactive Communication (ROMAN), Pasadena, CA.

Teaching Experience

Fall 2024 **Math Fundamentals for Robotics**, Teaching Assistant

Other Professional Development

Peer Review

Reviewer for AAAI Fall Symposium Series (2024)

Conference Chair

Chair of "Motion Planning and Navigation in Human-Centered Environments IV" session in IEEE RO-MAN 2024 Conference

Professional Membership

IEEE Student Member