Nhan Tran

720.532.6052

nttran@alumni.mines.edu www.trannhan.com linkedin.com/in/ttrannhan github.com/megatran

Education

- **Colorado School of Mines** *August 2014 - May 2020*
  - M.S. and B.S., **Computer Science + Robotics and Intelligent Systems** (3.9/4.0 GPA)
  - Masters Thesis: *Exploring Mixed Reality Robot Communication Under Different Types of Mental Workload*
  - Research Interests: human-robot interaction, human-computer interaction, mixed reality, AR/VR, AI

Work experience (selected)

- **Robust AI** *Research Intern, June 2020 - present*
  - Collaborating with researchers, designers, and engineers working on Perception at an early stage robotics startup.
  - Developing, profiling, and learning how to build robust **perception pipeline**, solve robotic problems using 3D geometry and linear algebra, stream real-time data over gRPC client-server protocols, and design **human-robot interaction** in **augmented reality**.
- **Facebook** *Production Engineer Intern, May 2019 - August 2019*
  - Saved team from capacity overloads by building **automation tools** that analyze historical data and control the sampling rates of machine learning experiments.
- **NASA-Caltech Jet Propulsion Laboratory** *Software and PM Intern, June 2018 - August 2018*
  - Researched and resolved bottlenecks in Mars 2020 Rover's Sampling and Caching Subsystem's cleaning process.
  - Reduced 50% lead time by designing an assembly tracking system to optimize operations workflows.
- **Google Nest** *Software Engineering Intern, May 2017 - August 2017*
  - Reduced man-hours by 90% by developing a robot tool that visualizes meaningful sensor data and robot states.
- **Mines Interactive Robotics Research Lab** *Research Assistant and Project Lead, 2017 - 2020*
  - Integrated **mixed reality headsets**, humanoid robots, and neurophysiological sensors to research how human mental workload is affected by or in turn affects mixed reality robot communication.
  - Led the Augmented Reality for Human-Robot Interaction research team
  - Researched and contributed to the lab's distributed Robotic Architecture's components (referring expression generation, pragmatics, and computer vision) to facilitate natural human-robot interaction.

Teaching experience and Leadership

- **Colorado School of Mines** *Instructor, Fall 2018, Spring 2019, Fall 2020*
  - Redesigned the *Introduction to Computer Science* course curriculum and taught 350+ students.
- **Mines Robotics Club** *President and Software Lead, 2014 - 2017*
  - Led 50 engineering students in 6 robotic competitions. Teams won 3 competitions. Facilitated outreach activities.

Awards

- **AR/VR Grand Prize @ Stanford University Hackathon** (2020, awarded to best overall AR/VR project)
- **Best AR/VR Project For Community Building @ Yale Hackathon** (2019, prize sponsored by Facebook)
- **Top 10 project and Calhacks Fellowship @ UC Berkeley Hackathon** (2018)
- **First Place @ LinkedIn Intern Hackathon** (2017, awarded $10,000).

- **US Grand prizes and Top 10 / 129 in Google's Young Makers competition** (2018)
- **Graduate Student Research and Teaching Fellowships** (2018-2020, masters' degree fully funded at Mines)
- **Outstanding Undergraduate Researcher** (2018, awarded by Department of Computer Science at Mines)
- **Greenhouse Scholars** (2014, awarded for excellent community leadership and involvement)
- **Daniels Scholars** (2014, full ride merit scholarship)

Publications

- **Nhan Tran**. *Adapting Mixed Reality Robot Communication to Mental Workload.* HRI 2020.
  - HRI Pioneers Workshop at the ACM/IEEE International Conference on Human-Robot Interaction
  - A highly competitive doctoral workshop at the top venue for HRI research.
- **Nhan Tran**, Kai Mizuno, Trevor Grant, Thao Phung, Leanne Hirshfield, and Tom Williams. *Exploring Mixed Reality Robot Communication Under Different types of Mental Workload.* VAM-HRI 2020.
- Jared Hamilton and **Nhan Tran** and Tom Williams. *Tradeoffs Between Effectiveness and Social Perception When Using Mixed Reality to Supplement Gesturally Limited Robots.* VAM-HRI 2020.
- Tom Williams and Matthew Bussing and Sebastian Cabrol and Elizabeth Boyle and **Nhan Tran**. *Mixed Reality Deictic Gesture for Multi-Modal Robot Communication.* HRI 2019.
- Tom Williams, **Nhan Tran**, Josh Rands, Neil T. Dantam . *Augmented, Mixed, and Virtual Reality Enabling of Robot Deixis.* VAMR 2018.

Other activities

- Web chair, 2021 ACM/IEEE International Conference on Human-Robot Interaction (2020)
- Reviewer, 2020 ACM/IEEE International Conference on Human-Robot Interaction (2019)
- Scholarship reviewer, Greenhouse Scholars (2020)
- Student Outreach Workshop organizer, AAAI Conference on Artificial Intelligence (2019, 2018)

Skills

- **Programming**
  - Python, Java, C++, C#, SQL
- **Other**
  - Unity3D, gRPC, Linux, Web Services, TCP/IP, Computer Networks, Robot Operating System
- **Languages**
  - Bilingual in Vietnamese and English
- **Design**
  - UI/UX Design, Photoshop, After Effects, Premiere, Sketch