Nhan (Nathan) Tran

720.532.6052

nhan@cs.cornell.edu   www.nhantran.com   linkedin.com/in/ttrannhan   github.com/megatran

Education

- **Cornell University**   *August 2022 - Current*
  - Ph.D., **Computer Science** (4.1/4.0 GPA). Minor in Cinematography. Adviser: Abe Davis.
  - Current Research Interests: human-computer interaction, XR/AR/VR, creativity support, video interaction

- **Colorado School of Mines**   *May 2020*
  - M.S. and B.S., **Computer Science + Robotics** (3.9/4.0 GPA). Adviser: Tom Williams
  - Masters Thesis: *Exploring Mixed Reality Robot Communication Under Different Types of Mental Workload*

Research experience

- **Adobe**   *Research Scientist Intern, May 2025 - Current*
  - Researching AI-assisted video editing with Dr. Mackenzie Leake and Dr. Valentina Shin.
  - Built VLM-integrated video editor and evaluated with 12 professional editors. Research paper under review.

- **Cornell University**   *PhD Student Researcher, August 2022 - Current*
  - Researching AR/VR, mobile augmented reality, and tools for content creation with Prof. Abe Davis.
  - Published at UIST and CHI; mobile app with press coverage in active use. Additional papers under review.

- **Robust AI**   *Research Intern, June 2020 - September 2020*
  - Researched augmented reality and human-robot interaction with Dr. Alex Trevor and Dr. Crystal Chao.
  - Built Unity3D simulator and mixed reality visualizer (iOS and HoloLens 2) with ROS integration, enabling remote robot control and real-time debugging for virtual robot path planning in real environments.

- **Mines Interactive Robotics Research Lab**   *Research Assistant and Project Lead, 2017 - 2020*
  - Researched AR/VR and human-robot interaction with Prof. Tom Williams; published papers at HRI.

Publications

ACM CHI, UIST, HRI are the premier venues for technical Human-Computer Interaction (HCI) publications, which are fully peer-reviewed and have an acceptance rate of 20-25%.

- **Nhan Tran**, Abe Davis, Valentina Shin, Mackenzie Leake. *Rhythm and Views: A Structure Approach to Micro-edits in Film Editing.* (Under submission at an HCI conference).

- **Nhan Tran**, Sam Belliveau, Coco Xu, Abe Davis. *Cell Phone Cinematography: Using Shot Plans for Cinematic Capture Guidance, Camera Parameter Automation, and Video Editing on Mobile Devices.* (Under submission at an HCI conference).

- **Nhan Tran**, Ethan Yang, Abe Davis. *ARticulate: Interactive Visual Guidance for Demonstrated Rotational Degrees of Freedom in Mobile AR.* ACM CHI Conference on Human Factors in Computing Systems (CHI 2025). **trannhan.com/articulate/**

- **Nhan Tran**, Ethan Yang, Angelique Taylor, Abe Davis. *Personal Time-Lapse.* 37th Annual ACM Symposium on User Interface Software and Technology. (UIST 2024). **MeCapture.com**
  - Patent-pending, free iOS app with potential applications in telehealth for documenting long-term bodily changes. Users in 14 countries. Featured in press coverage.

- **Nhan Tran**, Trevor Grant, Thao Phung, Leanne Hirshfield, Christopher Wickens, Tom Williams. *Now Look Here! Mixed Reality Improves Robot Communication Without Cognitive Overload.* 25th International Conference on Human-Computer Interaction (HCII 2023).

- Landon Brown, Jared Hamilton, Zhao Han, Albert Phan, Thao Phung, Eric Hansen, **Nhan Tran**, Tom Williams. *Best of Both Worlds? Combining Different Forms of Mixed Reality Deictic Gestures.* ACM Transactions on Human-Robot Interaction (THRI 2022).

- Jared Hamilton and Thao Phung and **Nhan Tran** and Tom Williams. *What's The Point? Tradeoffs Between Effectiveness and Social Perception When Using Mixed Reality to Enhance Gesturally Limited Robots.* 16th ACM/IEEE International Conference on Human-Robot Interaction (HRI 2021).

- Tom Williams and Matthew Bussing and Sebastian Cabrol and Elizabeth Boyle and **Nhan Tran**. *Mixed Reality Deictic Gesture for Multi-Modal Robot Communication.* 14th ACM IEEE International Conference on Human Robot Interaction (HRI 2019)

- Tom Williams, **Nhan Tran**, Josh Rands, Neil T. Dantam . *Augmented, Mixed, and Virtual Reality Enabling of Robot Deixis.* 10th International Conference on Virtual, Augmented and Mixed Reality (VAMR 2018).

Invited Talks and Presentations

- Invited speaker at Columbia University's HCI Seminar — November 2025
- Live demo "MeCapture" app at SIGGRAPH 2025 conference — August 2025
- Oral presentation at CHI 2025 conference — May 2025
- Finalist at Cornell's Annual Eastman-Rice Persuasive Debate Contest. Won 2nd place. — April 2025
- Invited Lightning Talk speaker at New York City Computer Vision Day — February 2025
- Invited speaker at Cornell Tech XR Monthly Seminar (Faculty Host: Harald Haraldsson) — January 2025
- Invited speaker at Princeton Vision & Graphics Seminar (Faculty Host: Adam Finkelstein) — November 2024
- Finalist at Three Minute Thesis (3MT) Competition, Harvard Engineering's Ivy Symposium — October 2024
- Oral presentation at UIST 2024 conference — October 2024
- Oral presentation at HCII 2023 conference — August 2023

Work experience (selected)

- **Robust AI** *Software Engineer, Robot Perception, June 2020 - August 2022*
  - Developed robot perception systems (obstacle avoidance, object detection, monocular depth estimation model).
  - Built simulation and visualization tools that allow rapid iteration of robotic development and sensor inspection.

- **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. Received a return full-time offer.

- **NASA-Caltech Jet Propulsion Laboratory** *Software Intern (Web/Full-stack), 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 visualization tool for internal robots to automate product testing.

Service

- Poster Reviewer, ACM SIGGRAPH (2025)

- Reviewer, ACM CHI Conference on Human Factors in Computing Systems (2025)

- Mentor and Panelist, Cornell Bowers CIS undergraduate research program (BURE 2023, 2024)

- Student Volunteer, Cornell Computer Science Visit Days (2023, 2024, 2025)

- Reviewer, ACM/IEEE International Conference on Human-Robot Interaction (2021, 2022)

- Web chair, ACM/IEEE International Conference on Human-Robot Interaction (2021)

- Publicity chair, Human-Robot Interaction Pioneers Workshop at HRI 2021 (2021)

- Scholarship reviewer, Greenhouse Scholars (2020)

- Student Outreach Workshop organizer, AAAI Conference on Artificial Intelligence (2018, 2019)

Teaching experience

- **Cornell University**   *Graduate Teaching Assistant, Fall 2022, Spring 2023*
  - Spring 2023: CS4670 Computer Vision with 350+ students.
  - Fall 2022: CS2110 Data Structures, one of Cornell's largest computer science courses with 700+ students.

Filmography

Beyond my research, I've cultivated filmmaking skills through Cornell's Cinematography program, serving in various roles from director to cinematographer. These creative experiences directly inform my research on improving tools and workflows for content creators. Student productions:

- Für Elise (Short Film), self-directed   Writer and Director, 2024

- Earworm (Short Film) directed by Jake Walter   First Assistant Camera, 2024

- Silence (Music Video) directed by Katherine Xu   First Assistant Camera, 2024

- 50/50 (Short Film) directed by Justin Lee   Director of Photography, 2024

- Premeditated (48 Hour Filmmaking competition) directed by Katherine Xu   Lighting/Gaffer, 2024

- The Tiny Explorer (Short Film), co-directed with Waki Kamino and Peter Wu   Actor and Co-Director, 2023

- My Robot (Short Film), self-directed   Writer and Director, 2023

- Facade (Short Film) directed by Krisha Jivani   Director of Photography, 2023

- Class Crush (Music Video) directed by Katherine Xu   Production Assistant, 2023