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Jessica Yin

Robotics Research Scientist

Research scientist specializing in tactile sensing for dexterous manipulation. Leads cross-company collaborations and builds tightly integrated systems across sensor hardware, simulation, data collection, and real-world deployment.

Experience

Dec 2025–present

NVIDIA, *Research Scientist*

- Lead tactile sensing research for dexterous hands on the Dex team in Applied Deep Learning Research.
- **Lead collaboration between Sharpa and NVIDIA's Newton and Dex sim-to-real research teams, connecting sensing, simulation, and robot learning.**
- Hands-on technical and research lead for **tactile simulation**, with release expected by the end of 2026; co-authored the ADEPT (sim-to-real RL) and GPU-accelerated hydroelastic contact papers.

Dec 2024–Dec 2025

Meta FAIR, *Postdoctoral Researcher*

- Led OSMO, an **open-source tactile glove**, end to end: hardware, data collection, policy training, and deployment (IEEE RA-L 2026).
- Showed human-to-robot skill transfer with a robot policy **learned only from human tactile glove data**.
- Partnered with manufacturer WowRobo to make the OSMO glove **hardware available off the shelf**, taking it from lab prototype to product.
- Co-authored TactAlign (RSS 2026) and Dexterity from Smart Lenses (ICRA 2026) with two PhD interns, on learning from tactile gloves and smart glasses.

Jun 2023–Jan 2024

Meta FAIR, *AI Research Scientist Intern*

- Built tactile simulation in Isaac Gym for **zero-shot sim-to-real RL** of in-hand translation (ICRA 2025).
- Built a Quest teleoperation stack for the Allegro hand.

May 2022–Aug 2022

Toyota Research Institute, *Research Scientist Intern*

- Fused proximity and visuotactile sensing to segment contact patches under extreme deformation (ICRA 2025).
- Co-inventor on two patent applications for sensor designs and algorithms.

Aug 2020–Nov 2024

University of Pennsylvania, *PhD Researcher*

- Designed a multimodal proximity and tactile sensor (**RoboSoft 2022 Best Student Paper**).
- Mentored six high school and undergraduate researchers; two publications with Penn Nursing and Penn Medicine.

Education

2020–2024

University of Pennsylvania GRASP Lab, *PhD in Mechanical Engineering*

MSE in Robotics. NSF Graduate Research Fellow. Advisers: Mark Yim and James Pikul.

2016–2020

Carnegie Mellon University, *BS in Mechanical Engineering*

Minor in Physical Computing, School of Computer Science.

Selected Publications

Full publication list at jessicayin.com.

RA-L 2026 — **OSMO: An Open-Source Tactile Glove for Human-to-Robot Skill Transfer**
Jessica Yin, Haozhi Qi*, Youngsun Wi*, Sayantan Kundu, Mike Lambeta, William Yang, Changhao Wang, Tingfan Wu, Jitendra Malik, Tess Hellebrekers. (*Equal contribution.)

CoRL 2026 — **ADEPT: Accelerating Dexterity via Pre-Training and Post-Training using Reinforcement Learning**
Jayjun Lee, **Jessica Yin**, Asif Rana, Nicholas Blauch, Sam Mady, Mohak Bhardwaj, Nima Fazeli, Nathan Ratliff, Karl Van Wyk, Ankur Handa.

RSS 2026 — **TactAlign: Human-to-Robot Policy Transfer via Tactile Alignment**
Youngsun Wi, **Jessica Yin**, Elvis Xiang, Akash Sharma, Jitendra Malik, Mustafa Mukadam, Nima Fazeli, Tess Hellebrekers.

ICRA 2026 — **Dexterity from Smart Lenses: Multi-Fingered Robot Manipulation with In-the-Wild Human Demonstrations**
Irmak Guzey, Haozhi Qi, Julen Urain, Changhao Wang, **Jessica Yin**, Krishna Bodduluri, Mike Lambeta, Lerrel Pinto, Akshara Rai, Jitendra Malik, Tingfan Wu, Akash Sharma, Homanga Bharadhwaj.

ICRA 2025 — **Learning In-Hand Translation Using Tactile Skin with Shear and Normal Force Sensing**
Jessica Yin, Haozhi Qi, Jitendra Malik, James Pikul, Mark Yim, Tess Hellebrekers.

ICRA 2025 — **Proximity and Visuotactile Point Cloud Fusion for Contact Patches in Extreme Deformation**
Jessica Yin, Paarth Shah, Naveen Kuppuswamy, Andrew Beaulieu, Avinash Uttamchandani, Alejandro Castro, James Pikul, Russ Tedrake.

RoboSoft 2022 — **Multimodal Proximity and Visuotactile Sensing With a Selectively Transmissive Soft Membrane** *Best Student Paper*
Jessica Yin, Gregory M. Campbell, James Pikul, Mark Yim.

AFM 2021 — **Wearable Soft Technologies for Haptic Sensing and Feedback**
Jessica Yin, Ronan Hinchet, Herbert Shea, Carmel Majidi. *Advanced Functional Materials.*

Invited Talks and Panels

2027 — **Invited speaker and panelist**, ICLR 2027 Tactile Foundation Models: Learning Touch Across Sensors, Hands, and Objects (upcoming).

2026 — **Invited speaker and panelist**, RSS 2026 Tactile Sensing for Robotic Foundation Models.

2026 — **Invited panelist**, University of Wisconsin-Madison NSF Research Traineeship INTEGRATE Symposium.

2026 — **Invited guest lecturer**, University of Michigan EECS 467: Autonomous Robots.

2025 — **Invited speaker and panelist**, RSS 2025 Workshops on Dexterous Manipulation and Navigating Contact Dynamics in Robotics.

Honors and Patents

2022 — **RoboSoft Best Student Paper Award**.

2020–2024 — **NSF Graduate Research Fellowship**, Computer Vision & Robotics.

2023 — **Multimodal Proximity and Visuotactile Sensing Through Transmissive Membrane.** US Patent App. **18/327,981**, University of Pennsylvania.

2025 — **Deformable sensors having an internal stereo depth sensor and an infrared sensor.** US Patent App. **19/316,042**, Toyota Research Institute.

2025 — **Collapsible protrusions having a variable coefficient of friction.** US Patent App. **18/644,687**, Toyota Research Institute.