Andrew Pasco

+1(609) 472-4824 | apascos@gmail.com | https://www.linkedin.com/in/andrew-pasco1/

Education

Stanford University *Stanford, CA*
MS Candidate in Mechanical Engineering, Robotics Depth *Sep 2025 - Mar 2027*
Key Courses: Robot Perception, Principles of Robot Autonomy, Collaborative Robotics, Deep Learning

University of Cambridge *Cambridge, UK*
MPhil in Industrial Systems, Manufacture, and Management *Oct 2024 - Aug 2025*
Thesis: "Exploring Smartphone-Enabled Gesture Input for Intuitive Robot Teleoperation"

California Institute of Technology *Pasadena, CA*
BS in Mechanical Engineering, Robotics Depth (4.0 GPA) and BEM (4.0 GPA) *Sep 2020 - Jun 2024*
Key Courses: Robotics, Experimental Robotics, Robotic Systems, Data Analysis in Engineering, Engineering Design Laboratory, Dynamics, Design and Fabrication, Experiments and Modeling in Mechanical Engineering

Projects

MPhil Thesis: "Exporing Smartphone-Enabled Gesture Input for Intuitive Robot Teleoperation" *Jan 2025 - Aug 2025*

- Developed and conducted appropriate user testing of a hand pose and gesture-based, smartphone-enabled remote **robot teleoperation system**
- Identified appropriate integration constraints for linking novel interface with **ROS1 control backend**
- Achieved **comparable usability and task loading metrics** to relevant comparison literature
- Collaborated with MIT LEAP to submit **first-author manuscript** to ICRA 2026 (in review)

ME134: Robotic Systems - Interactive Robot Backgammon *Jan 2024 - Mar 2024*

- Designed manipulator and necessary **ROS2 control system** to enable interactive tabletop backgammon, including trajectory planning and chaining, game logic coordination, and failure mode recovery
- Developed **OpenCV-based detectors** for board pose and checker existence, correspondence, and pose
- Demonstrated failure-free operation / interaction for 20+ mins and achieved **A+ grade in course**

Work Experience

Beta Technologies - Full Time Mechanical Engineering Intern *Jun - Sep 2021, '22, '23*

- Designed housing assembly, manufacturing plan, and V&V plan to ensure integral torque-transferring component of proprietary motor can operate safely during a **specific motor failure mode**
- Utilized **Onshape, Solidworks, and CATIA CAD** to design robust mounting platforms and housings for flight-essential electrical components, analyze and verify safety margins, and ensure proper documentation
- Ensured electric vertical takeoff/landing experimental aircraft (ALIA-250 SN02) received **FAA air-worthiness certificate** and registration to enable flight testing as a member of the flight-readiness engineering team

ISMM Industrial Projects - Student Research Consultant *Dec 2024 - Mar 2025*

- Undertook **four industry projects with companies in England and Wales**, consulting on key issues to each company by framing the problem, collecting/analyzing data, and developing recommendations
- Implemented **lean manufacturing principles** and a bespoke inventory management system for RAM Innovations, an embedded die packaging printed circuit board manufacturer
- Recommended R&D process improvements for an espresso-maker SME, **saving 5-11 days per iteration**
- **Developed market-entry strategy and licensing model** for an early-stage materials science startup
- Solved line balancing and inventory management issues for Huhtamaki BCP, a large paper products company, enabling **projected annual savings of £400k** while lowering lead times by 5 days on average

Caltech Department of Mechanical Engineering - Teaching Assistant *Oct 2022 - Jun 2024*

Skills

Programming Python (incl. ROS2, OpenCV, ML/DL libraries), Linux familiarity, Swift, MATLAB
CAD CATIA/3DX (V6), SOLIDWORKS, Onshape, Fusion360
Organization Confluence project and process documentation, Git, Overleaf scientific report writing