

Anthony Ng

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Education

M.S. IN ROBOTICS | GEORGIA INSTITUTE OF TECHNOLOGY | GRAD: SPRING 2028

- Coursework: Dynamics of Mechanical Systems, Linear Controls, Probability Theory for Sci/Eng

B.S. IN MECHANICAL ENGINEERING | UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN | GRAD: FALL 2025

- GPA: 3.97/4.00 (Bronze Tablet, Highest Honors, James Scholar, 6x Dean's List); Minor: Computer Science
- Highlighted Coursework: Robot Dynamics and Controls, Computer Control of Mechanical Systems, Mechanical Design Optimization, Numerical Methods, Deep Learning for Computer Vision

Skills

- **Hardware:** Solidworks, Creo, Fusion 360, 3D Printing, Machining, FEA, Circuitry, Eng. Drawings
- **Software:** Python, C/C++, Arduino/ESP32, MATLAB, ROS 2, Git
- **Other:** Change Order/Doc Control, CT Scanning, MS Suite, Agile, Windchill, Design of Experiments

Experience

GRADUATE RESEARCHER | GT EPIC LAB (DR. AARON YOUNG): POWERED PROSTHESIS | FALL 2026 - PRESENT

- Supporting prosthetic trials with motion-capture and onboard sensor data collection
- Integrating and configuring new BLDC and IMUs on Jetson Orin and E-stop for OSL powered prosthetic

MECHANICAL ENGINEERING INTERN | INTUITIVE SURGICAL | SUMMER 2026

- Designed and fabricated a modular fixture and test method to conduct component-level friction testing across all DaVinci Multiport Core 8 mm instruments w/ Solidworks
- Conducted CT scanning and material testing for metallic 3D printed vs metallic injection molded (MIM) patient-contacting components
- Designed and assembled safety cladding and fixturing for critical Force Feedback test equipment

MECHANICAL ENGINEERING INTERN | BROOKS AUTOMATION | SUMMER 2025

- Led customer collaboration to diagnose EFEM vibrations using 3-axis accelerometer data and Python spectral analysis, presenting findings/recommendations to technical and non-technical stakeholders
- Performed static and dynamic load calculations and conducted FEA (including creating simplified CAD models) for various configurations in an upcoming robot redesign using Creo and Python
- Designed fixture to parallelize 24-hr motor test, allowing multiple units to be tested w/o full assembly

MECHATRONIC EQUIPMENT ENGINEERING INTERN | INTUITIVE SURGICAL | SUMMER 2024

- Designed, prototyped, and built fixture to improve safety and ergonomics in warehouse w/ Solidworks
- Collaborated with cross-functional team to design Da Vinci 5 surgeon-side console motor test module
- Finalized and refined designs leveraging FEA, 3D printing, and drawings (including GD&T)

MANUFACTURING ENGINEERING INTERN | ENDOVASCULAR ENGINEERING | SUMMER 2023

R&D ENGINEERING INTERN | EARLENS CORPORATION | SUMMER 2022

Project Highlights

OSCILLATORY FLUME CONTROL INTEGRATION | UIUC ME470 (SENIOR DESIGN) | FALL 2025

- Implemented a solo-operable oscillatory flume in a team of 4 ([demo video link](#)); awarded 2nd/32 teams
- Assisted tuning for ODrive P + PI cascade position controller to achieve square, triangle, and sine waves with amplitude range 10-30 cm and frequency range 0.1-0.5 Hz
- Designed (Fusion360) piston drive & extrusion frame, using only 3D-printed, waterjet, and COTS parts

3-LINK MANIPULATOR OBSTACLE COURSE | UIUC ME446 (ROBOT DYNAMICS AND CONTROLS) | SPRING 2025

- Implemented task-space PD & variable impedance control on a 6-DOF robot arm using C and MATLAB
- Developed forward/inverse kinematics with Jacobian force mapping for real-time 3D trajectory tracking
- Programmed straight-line trajectories to traverse through peg insertion, zig-zag corridors, and pressing an egg within an applied load range of 500-1000 g ([demo video link](#))