

# CHRISTOPHER EVAGORA

evagora@mit.edu · <https://evagor.ac/>

## EDUCATION

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### Massachusetts Institute of Technology

Cambridge, MA

M.Eng. in Electrical Engineering and Computer Science

GPA: 5.0 Graduated: Feb 2025

B.S. in Electrical Engineering and Computer Science

GPA: 4.4 Graduated: Feb 2023

- Relevant Coursework: Robotic Manipulation, Underactuated Robotics, Digital Systems Lab, Electromagnetic Waves and Applications, Power Electronics, Intro to Algorithms, Feedback System Design, Solid-State Circuits, Computation Structures, Machine Learning, Mechanics and Materials

## WORK EXPERIENCE

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### MIT Biomimetic Robotics Lab Research

*Humanoid Hardware Design and Optimization*

September 2022 – Feb 2025

- Designed, assembled, and modeled the battery pack for the MIT Biomimetic Lab's humanoid robot from the ground up. Capable of at least 7.5kW peaks. Involves mechanical design, BMS circuit design, battery cell characterization, and pack level transient modeling. Described further in my thesis.

### Robotics & AI Institute

*Motor Characterization Intern*

May 2024 – Sept 2024

- Designed hardware, electrical systems, and algorithms for collecting performance data on robot actuators using a custom and configurable dynamometer. Interfaced with off the shelf torque sensing solutions.

### Boston Precision Motion

*EE and Firmware Engineer Intern*

Jan 2023 – Feb 2023

- Designed hardware and developed firmware for a firm consulting a startup specializing in tele-operated humanoid robots.

### MIT Motorsports- Formula SAE Electric

*Battery Team Lead*

June 2020 – September 2022

- Lead designer and team organizer of the battery accumulator system for an electric racecar. Involves mechanical design and analysis of battery modules and boxes, thermo-fluid analysis and validation of water-cooling loop, and electrical design of bus-bars and fusing. Great emphasis on HV safety and maintainability.

### CSAIL HCIE Lab Research- ElectroVoxel Version 2

*Mechanical Design and Simulations Lead*

June 2022 – August 2022

- Tasked with developing electromagnetically actuated cubes that can perform reconfigurations under influence of Earth's gravity. Interfaced with existing lab equipment to make automated data collection systems to inform design. Used data along with dynamic physics simulations to guide mechanical design.

## TECHNICAL PROJECTS - EACH PROJECT AND MORE DESCRIBED FURTHER AT [HTTPS://EVAGOR.AC/](https://evagor.ac/)

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### Three Phase Motor Control

June 2024 - Sept 2024

- Using an STM32 and TI DRV830X dev kit, I successfully implemented Field Oriented Control for a three phase brushless motor. The firmware is capable of receiving commands over UART, and has support for an external quadrature encoder.

### Operation Space Controller for KUKA IIWA

Sept 2023 - Dec 2023

- For my group's final project in MIT's Robotic Manipulation taught by Professor Tedrake, my role was to implement the operation space controller with a secondary null space controller to allow a KUKA IIWA to draw on unknown surfaces by applying constant pressure perpendicular to the surface by controlling joint torques. Simulated in Drake.

### Thermal Camera Hacking

Sept 2023 - May 2024

- Working alongside my roommate, we managed to hack a highly capable and cheap thermal camera. This project heavily involved FGPA's and Vivado. Capable of decoding the video stream in real time and driving a VGA monitor with the camera feed.

## SKILLS

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- Altium Designer, KiCad, Solidworks, Xilinx Vivado, STM32, LTspice, System Verilog, Python, MATLAB, C/C++, CNC, 3D-Printing