HALEY HIGGINBOTHAM

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EDUCATION

Massachusetts Institute of Technology **PhD Student**
- MS in Mechanical Engineering 24', BS in Bioengineering 21' *Cambridge, MA*
- GPA 5.0/5.0

Edgewood Jr./Sr. High School **Class of 2017**
- Valedictorian, GPA 4.0/4.0, SAT: 2360 *Merritt Island, FL*
- Dual-enrolled at Eastern Florida State College, received AA Degree upon high school graduation

EXPERIENCE

Cima Lab – Koch Institute **Aug 2021 – present**
Graduate Researcher *Cambridge*, MA
- Improving hardware and signal processing protocols in NMR sensor for clinical volume sensing
- Developing nanofluidic pump system for minimally invasive monitoring of neural peptide landscape

Center for Biomedical Engineering **Sept 2019 – Sept 2020**
Undergraduate Researcher *Cambridge*, MA
- Investigating difficult endotracheal intubation scenarios
- Designing & prototyping an appendage for laryngoscopes to improve visualization and manipulation

Bioelectronics Group **May 2018 – May 2020**
Undergraduate Researcher *Cambridge, MA*
- Built a treadmill and trained mice in order to investigate the recovery of locomotor function after spinal cord injury
- Aided in the fabrication of custom neural probes
- Trained a neural network on the Cloud to perform motion capture video analysis

DLEE Designs, LLC. **June 2016 – Sept 2017**
Part-time Private Contractor Cocoa, FL
- Executed proof of concept studies and integration of hardware and software
- Developed software, conducted data analysis, and produced 3D models

ACTIVITIES

The Bike Lab **July 2022 - present**
- Co-Founder & volunteer mechanic
- Teaching the MIT community how to maintain and repair bikes

MIT Women's Lightweight Crew **Sept 2017 – May 2022**
- Set the fastest 5k & 2k erg times in the history of the team
- Invited to national team selection camp (Summer 2020)

Leadership Programs **Sept 2019 - present**
- Served as Master of Ceremonies at the 2019 Fung Scholar's Leadership Conference in Shanghai
- Certification from Gordan Engineering Leadership Program
- Mentored high school students through MIT's Leadership Training Institute

SKILLS

- **Computers:** CAM/CAD– Solidworks, Microsoft Office, Python, Arduino, Matlab, LabVIEW
- **Biology:** animal handling (rats and mice), general wet-lab techniques
- **Fabrication:** laser cutting, vinyl cutting, machining, 3d printing, glass-working/fusion, carpentry, welding, soldering

AWARDS/HONORS

- NSF Graduate Research Fellowship
- Fung Scholar
- Johnson & Johnson Scholar
- National Merit Scholarship Winner
- National AP Scholar Award