

Thomas Downes

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EDUCATION

University of Pittsburgh

BS: April 2023, MS: April 2024

BS/MS in Computer Science, Minor in Electrical Engineering

- GPA 3.98
- Experience with C, C++, Python, distributed systems, HCI, embedded systems, Docker

WORK EXPERIENCE

Software Engineering Intern

May 2023–August 2023

Product Insight

- Designed and implemented simulation and control software for a 3.5 axis industrial scale gantry robot.
- Designed and implemented firmware on STM32 to interface between TCP network and CAN bus with support for firmware flashing over TCP

HCI Researcher

May 2021–May 2023, August 2023–Present

University of Pittsburgh

- Co-authored research paper studying augmented reality in surgical applications (Accepted to ISMAR 2023)
- Co-authored research studying internet of things technology and people sensing (Accepted to CHI 2023)
- Designed all software and hardware for data collection, storage, and visualization, created augmented reality software, ran participants through trials.

ACTIVITIES AND PERSONAL PROJECTS

SailBot

August 2019–Present

Controls Team Lead (2 years), Vice President (2 year)

- Lead a team of 10 people in writing software for and controlling electronics in an autonomous sailboat, the past 2 years we placed 3ed in an international competition
- Experience using and teaching others about Raspberry Pi, Arduino, Python, C++, Github, Odrive, stepper motor control, and other assorted sensors

The Profaned Cathedral

December 2018–December 2019

- Developing a roguelike video game using Python and Pygame
- Implemented the ability to load mods at runtime and the ability to connect and play with friends over the internet