Benjamin D. Manley

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EDUCATION

University of Michigan, *Ann Arbor, MI* *May 2021 B.S.E. / May 2022 M.S.E.*
B.S.E & M.S.E. in Computer Science, Minor in Physics **3.96 / 4.00 GPA**
Honors: 1931E Scholar Society, Dean's List, James B. Angell Scholar
Relevant Coursework: Web Systems, ML, OS, UI Development, Computer Security, Circuits, Data Structures, Algorithms, Computer Architecture, Java, Physics, Calculus, Statistics, Linear Algebra

Hong Kong University of Science and Technology*, Study Abroad in Clear Water Bay, Hong Kong* *June – Aug 2018*

EXPERIENCE

Microsoft Garage, *Cambridge, MA*
Software Engineering Intern *June – Aug 2020*

Honeybee Robotics Spacecraft Mechanisms Corp., *Pasadena, CA*
Software Engineering Intern *June – Aug 2019*
- Created new flight software system to be used on multiple space missions in the next decade
- Developed real-time, memory-constrained flight software with FreeRTOS for interrupt-driven timing, serial communication, and translation of system tick counts into J2000 using intermittent time correlation packets
- Designed a method of timestamping to minimize overhead during critical data collection
- Organized modular code structure, automated build-deploy-debug process with Bash, documented codebase for use/development by full-time engineers, and presented work to company executives

University of Michigan Robotic Submarine Design Team, *Ann Arbor, MI*
Co-Founder, Software Lead *Feb 2020 – Present*
- Lead a team of engineers to develop autonomous control and navigation software for an underwater vehicle
- Integrated computer vision with motor control using ROS with custom inter-process messages

University of Michigan Hyperloop Design Team, *Ann Arbor, MI*
Controls Subsystem Lead *Sept 2018 – Feb 2020*
- Managed a team of engineers to design and implement a computer system and sensor array to semi-autonomously control our Hyperloop Pod
- Oversaw physical and functional integration with the rest of the subsystems to create one unified product
- Developed software for serial communication, sensor data acquisition, telemetry algorithms, error handling, internal state-checking, and a heartbeat system between on-board microprocessors
- Performed component research, state diagram design, sensor hardware testing, and Linux kernel configuration

M-agination Films Production Group, *Ann Arbor, MI*
Producer | Editor | Sound Technician *Oct 2017 – Present*
- Artistically and logistically manage production of films and select scripts for the group to produce
- Edit films with the Adobe Suite and manage shot continuity and audio recording on-set

SKILLS

Programming Languages: C/C++, Python, HTML/CSS, JS (+ React), Bash, basic exp. in C#, Java, Assembly
Development Tools: Git, Vim, VS/VSCode, Xilinx Vivado/SDK, FreeRTOS, basic exp. in Xamarin, Android Studio
Media Software: Adobe Premiere Pro, Adobe Photoshop, Adobe Audition, LaTeX

MISCELLANEOUS

Ear Peace: Save Your Hearing Foundation, *Board Member and Ambassador* *Aug 2013 – Present*
Nonprofit: spread info about noise-induced hearing loss to students nationwide.

MHacks 11, *Hackathon Participant* *Oct 2018*
Multi-process Python utility allowing Super Mario Bros to be played by playing the theme song on a MIDI piano

TEDx Youth@Miami, *Speaker* *Feb 2015*