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 **3.97 / 4.00 GPA**
Honors: 1931E Scholar Society, Dean's List, James B. Angell Scholar
Relevant Coursework: Autonomous Robotics, Quantum Computing, ML, CV, OS, UI, Security, Computer Arch., Web Systems, Physics (E&M, Heat/Waves, Quantum), Calculus, Statistics, Linear Algebra

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

EXPERIENCE

SpaceX, *Redmond, WA*
Starlink Software Intern *May – Aug 2021*
- I will spend Summer 2021 developing software for SpaceX's Starlink internet satellite constellation

Microsoft Garage, *Cambridge, MA*
Software Engineering Intern *June – Aug 2020*
- Delivered a new feature in Microsoft Teams' personal messaging platform, working from conception to shipment in 11 weeks in a full-stack, all-intern team using Agile workflow
- Developed scalable client and backend code in Android and C# enterprise codebases (~1 bill. hits to my code / day)
- Implemented the first feature to follow brand-new standards for operational telemetry data and code structure
- Performed manual and automated tests to build accessible UI for blind and motor-impaired users

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

EECS 370 (Computer Organization), *Ann Arbor, MI*
Instructional Aide *Aug 2020 – Present*
- Teach students about compilers/linkers, assembly, processor pipelines and caches, virtual memory, etc.

Michigan Robotic Submarine, *Ann Arbor, MI*
Co-Founder, Software Lead *Feb 2020 – Present*
- Led a team of engineers to develop autonomous control and navigation software for an underwater vehicle
- Architected a system design integrating computer vision, task/motion planning, and motor control using ROS

Michigan Hyperloop, *Ann Arbor, MI*
Controls Subsystem Lead *Sept 2018 – Feb 2020*
- Managed a team to design and implement a computer system and sensor array to control our Hyperloop Pod
- Oversaw physical and functional integration with the rest of the subsystems to create one unified product
- Designed system architecture and state machine and developed software for serial communication, sensor data acquisition, telemetry algorithms, networking, error handling, and an inter-board heartbeat system

SKILLS

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

MISCELLANEOUS

Ear Peace: Save Your Hearing Foundation, *Nonprofit Board Member and Ambassador* *Aug 2013 – Present*
M-agination Films Production Group, *Producer, Editor, and Sound Technician* *Oct 2017 – Present*
TEDx Youth@Miami, *Speaker* *Feb 2015*