Mckenna Cisler

Software | Embedded | Robotics

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EDUCATION

B.S. Computer Science & B.A. Engineering, *Brown University,* Providence, RI   **GPA:** 3.80 / 4.0   **Sept 2016 — May 2020**
Courses: Intro to Software Engineering, Operating Systems, Algorithms, Machine Learning, Distributed Systems, Collaborative Robotics, Digital Electronics Systems Design, Design of Computing Systems, Electrical Circuits and Systems, Signals & Systems

TECHNICAL EXPERIENCE

Avionics Intern, *Boom Supersonic,* Denver, CO   **May 2019 — Aug 2019**
– $141M Series B supersonic airliner startup developing single-seater Mach 2.2 demonstrator aircraft.
– Led clean-sheet design of mission-critical aircraft-tracking telemetry ground station, including requirement definition, critical design review, component integration, and C++ controller & user interface, for 5% of the cost of the commercial alternative.
– Developed a software tool to automate requirement verification based on software unit test results. Will be used to enable rapid flight software deployment during flight testing (Python, C++).

Software Engineering Intern, *The MITRE Corporation,* Bedford, MA   **June 2018 — Aug 2018**
– Built Android app using UI automation to automate radio and power consumption testing. Integrated with existing test infrastructure.
– Enabled execution of a 250-node radio test by eliminating the need for human participants to operate individual phones.

Technical Lead / Flight Software Engineer, *Brown Space Engineering,* Brown University   **Sept 2016 — Present**
– Leading all technical projects for 75+ student team which designs and flies open-source CubeSats from scratch.
– Leading preliminary design and writing of a launch grant application for the team's next satellite.
– Worked on flight & ground software, RF systems, and telemetry analysis for 'EQUiSat' CubeSat launched in July 2018 (still operating).
– Designed RTOS-based satellite OS components in C which have operated continuously in space for > 1 year, including critical control logic, data transmission, hardware interfacing, and bootloader to correct program memory from radiation-safe backup.

Robotics Technician, *Humanity-Centered Robotics Initiative,* Brown University   **Sept 2016 — Dec 2018**
– Led clean-sheet design and construction of hardware and software for "Walkerbot" elderly assistive robot (C++, ROS).
– Built analytics logging API and database for studying user interaction with an assistive toy (Node, C#, MongoDB).
– Prototyped ultrasonic localization system to help the elderly find household objects (Atmel MCU, Node).
– Designed trash can monitoring system for Brown Facilities Department; ran successful trials (Node).

Teaching Assistant, *Introduction to Computer Systems,* Brown University CS Department   **Aug 2018 — Dec 2018**
– Held office and lab hours, graded student work, and developed course labs and projects.

Educational Resource Developer, *White Mountain Science, Inc.,* Bethlehem, NH   **May 2016 — Aug 2017**
– Designed High Altitude Balloon (HAB) systems and procedures to enable high schools with minimal resources to launch experiments.

PERSONAL PROJECTS

– Java / Javascript webapp for the Wikipedia game; developed websocket communication protocols, designed Wikipedia page link caching system to speed up page crawling and game generation. *Introduction to Software Engineering final team project*
– Javascript-based academic citation conversion engine and Apache / PHP web app; 1000+ weekly visitors.
– Q-learning AI for checkers using TensorFlow. *Hack@Brown team.*
– Raspberry-Pi-based DIY alarm clock with Python / Javascript web interface.
– Visualization of socioeconomic data on Hubway stations using Node, D3.js. *Brown Datathon team.*
– Webapp to show public sentiment of firms by analyzing news coverage. Node, MongoDB. *HackHarvard team.*

SKILLS

Languages	Strong in C, C++, Java, Python; Proficient in Javascript, Go, Verilog; Experience with MATLAB
Tools	Strong in FreeRTOS, ROS, Node, jQuery, Bootstrap, Git; Proficient in React, OpenCV, Android
Other	CAD (Inventor, OnShape, Blender), 3D Printing, Laser Cutting, Mill & Lathe Atmel MCUs, FPGAs, Raspberry Pi, Arduino, and digital/analog circuits Graphic design (Premier, Blender, GIMP, Photoshop, Inkscape) Amateur radio operator (callsign KC1ICW), student pilot (51 flight hours), and FIRST Robotics (FRC) alum