Mckenna Cisler

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EDUCATION

B.S. Computer Science **GPA:** 3.77 / 4.0 **Sept 2016 — May 2020**
***Brown University**, Providence, RI*
Courses: Introduction to Software Engineering, Introduction to Computer Systems, Digital Electronics Systems Design, Machine Learning, Distributed Computing Systems

TECHNICAL EXPERIENCE

Software Engineering Intern
The MITRE Corporation **June 2018 — August 2018**

- Android app to automate testing of a radio network. The app controlled components of an additional client app to produce realistic simulated traffic on the network.
- Integrated system with an existing control server for centralized test configuration and execution.
- Enabled execution of a 200-node radio test by eliminating the need for human participants to operate phones.

Technical Lead / Flight Software Programmer
Brown Space Engineering Club, Brown University **Sept 2016 — Present**

- Worked on flight/ground software, radio link, and management of "EQUiSat" CubeSat launched in July 2018.
- Satellite operating system; wrote RTOS tasks in C for data recording and satellite actions; co-developed boot sequence and satellite state handling systems. Wrote concurrency systems for protecting hardware interfaces.
- Data collection protocols and transmission schema; performed link budget calculations.
- Bootloader to correct program memory based on RAD-safe external memory; uploaded final satellite binary.
- Raspberry Pi-based ground station software and hardware; contributed to data processing systems.

Robotics Technician
Humanity-Centered Robotics Initiative, Brown University **Sept 2016 — Present**

- Hardware & software design of control system for "Walkerbot" elderly assistive robot (C++, ROS, BeagleBone).
- Analytics logging API and database for studying user interaction with an assistive toy (Node, MongoDB).
- Ultrasonic object localization to help the elderly find household objects. (Arduino, ATtiny85, NodeMCU, Node).
- Universal video conferencing and teleoperation web platform for ROS robots (Node, P2P, ROS).
- Hardware interfacing, voice communication, and user interaction design for "Tablebot" – a novel mobile telepresence robot designed to resemble furniture (C++, Python, ROS).
- Trash can monitoring system for Brown Facilities Department; ran two successful trials (Node, NodeMCU)

Educational Resource Developer / Instructor
White Mountain Science, Inc., Bethlehem, NH **Jan 2015 — Aug 2017**

- High Altitude Balloon (HAB) on-board, tracking, and retrieval systems.
- ATtiny85-based "paper circuit" controller to be sold to educators, including documentation, manufacturing, and marketing materials; shipped 10 prototypes to local school.
- Educational tools and coding lessons (ScratchX extensions, Javascript & Scratch tutorials).

PERSONAL PROJECTS

- Java / Javascript webapp for Wikipedia Game; co-designed and debugged websocket communication framework, designed Wikipedia page link caching system to speed up page crawling and game generation; decreased memory usage by 60% for Heroku deployment. *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*
- 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 Java, C; Proficient in Javascript, Go & Python; Experience with C++, Verilog
Tools	Strong in jQuery, Bootstrap, FreeRTOS & Git; Proficient in Node, React, Python Tornado, Android, ROS
Other	CAD (Inventor, OnShape, Blender), 3D Printing, Laser Cutting & Lathe Raspberry Pi, Arduino, Atmel MCUs, FPGAs (minimal), and digital/analog components Graphic design (Premier, GIMP, Photoshop) Amateur radio operator (KC1ICW), student pilot (can fly solo), and FIRST Robotics (FRC) alum