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, Electrical Circuits and Systems, Machine Learning, Distributed Computing Systems

TECHNICAL EXPERIENCE

Software Engineering Intern
The MITRE Corporation **June 2018 — August 2018**
— Built Android app to automate testing of a radio network. The app used UI automation to control components of a client app in order 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 Lead
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.
— Designed satellite operating system; wrote RTOS tasks in C for data recording and satellite actions; developed boot sequence and OS state handling systems. Wrote concurrency systems for protecting hardware interfaces.
— Developed data collection protocols and transmission schema; performed link budget calculations.
— Wrote bootloader to correct program memory from RAD-safe backup memory; uploaded final satellite binary.
— Designed Raspberry Pi-based ground station software and hardware and network data processing systems.
— Performed analyses of satellite telemetry to isolate software issues and explain anomalous satellite behavior.

Robotics Technician
Humanity-Centered Robotics Initiative, Brown University **Sept 2016 — Present**
— Designed and built hardware and software for "Walkerbot" elderly assistive robot (C++, ROS, BeagleBone).
— Built analytics logging API and database for studying user interaction with an assistive toy (Node, MongoDB).
— Prototyped ultrasonic object localization system to help the elderly find household objects. (Arduino, ATtiny85, NodeMCU, Node).
— Prototyped universal video conferencing and teleoperation web platform for ROS robots (Node, P2P, ROS).
— Responsible for hardware interfacing, voice communication, and user interaction design for "Tablebot" – a novel mobile telepresence robot designed to resemble furniture (C++, Python, ROS).
— Designed trash can monitoring system for Brown Facilities Department; ran successful trials (Node, NodeMCU)

Educational Resource Developer / Instructor
White Mountain Science, Inc., Bethlehem, NH **Jan 2015 — Aug 2017**
— Designed High Altitude Balloon (HAB) on-board, tracking, and retrieval systems and procedures.
— Built ATtiny85-based "paper circuit" controller to be sold to educators, including documentation, manufacturing, and marketing materials; shipped 10 prototypes to local school.
— Developed 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