

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

- 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