

Mckenna Cisler
Robotics | Embedded | Software
mckenna_cisler@brown.edu

mcisler.com (see for project links)
linkedin.com/in/mckenna-cisler
github.com/MckennaCisler

492 Birches Road
Sugar Hill, NH
(603) 991-2470

EDUCATION

B.S. Computer Science, B.A. Engineering **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, Algorithms, Signals & Systems

TECHNICAL EXPERIENCE

Software Engineering Intern
The MITRE Corporation, Bedford, MA **June 2018 — Aug 2018**

- Built [Android](#) app to automate radio network and power consumption testing. The app used UI automation to control components of a client app in order to produce realistic simulated user interaction and network traffic.
- Integrated system with an existing infrastructure for centralized test configuration and synchronized execution.
- Enabled execution of a 250-node radio test by eliminating the need for human participants to operate phones.

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

- Overseeing all technical projects for 75+ student club: on-orbit satellite maintenance and future spacecraft.
- Working on flight & ground software and telemetry analysis for “EQUISat” CubeSat launched in July 2018.
- Working on systems engineering for radio link, tracking, and data processing systems of ground station network.
- Designed satellite operating system; wrote [RTOS](#) tasks in [C](#) for satellite command and control, OS state handling, peripheral control and timing, data collection, and transmission schema & protocol.
- Wrote bootloader to correct program memory from radiation-safe backup; performed final satellite configuration.

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 localization system to help the elderly find household objects ([ATTiny](#), [NodeMCU](#), [Node](#)).
- Prototyped universal video conferencing and teleoperation platform for telepresence robots ([Node](#), [P2P](#), [ROS](#)).
- Designed trash can monitoring system for Brown Facilities Department; ran successful trials ([Node](#), [NodeMCU](#)).

Teaching Assistant
Introduction to Computer Systems, Brown University CS Department **Aug 2018 — Present**

- Holding office and lab hours, grading student work, and developing course labs and projects.

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; developed websocket communication protocols, 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*
- [Raspberry-Pi-based](#) DIY alarm clock with custom 3D-printed case and [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 , Java , Python ; Proficient in Javascript , Go , C++ ; Experience with MATLAB , Verilog
Tools	Strong in FreeRTOS , ROS , Node , jQuery , Bootstrap , & Git ; Proficient in React , Python Tornado , Android
Other	CAD (Inventor , OnShape , Blender), 3D Printing, Laser Cutting, Mill & Lathe Atmel MCUs , Raspberry Pi , Arduino , FPGAs/CPLDs (minimal), and digital/analog components Graphic design (Premier , Blender , GIMP , Photoshop , Inkscape) Amateur radio operator (callsign KC1ICW), student pilot (can fly solo), and FIRST Robotics (FRC) alum