Mckenna Cisler

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EDUCATION

B.S. Computer Science **GPA:** 3.80 / 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

High School **GPA:** 92.24 / 100 **Aug 2012 — June 2016**
***St. Johnsbury Academy**, St. Johnsbury, VT*

TECHNICAL EXPERIENCE

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

- Developing ultrasonic-communication-based object localizing system for assisting the elderly in finding household objects. (ATtiny85, Arduino, NodeMCU, NodeJS)
- Developing generalized video conferencing and teleoperation web platform for ROS robots (NodeJS, P2P, ROS).
- Developing hardware interfacing, voice communication, and user interaction design for "Tablebot" – a novel mobile telepresence robot designed to resemble furniture (C++, Python, ROS).
- Co-developing NodeJS & NodeMCU-based wireless trash can monitoring system for Brown University Facilities Department; ran two successful one-week trials.

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

- Worked on flight software team for CubeSat scheduled to launch in early 2018.
- Developed satellite OS; 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.
- Co-designed data collection structures and transmission schema; wrote reliability tests.
- Wrote bootloader to rewrite program memory from RAD-safe external memory; uploaded final satellite binary.

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

- Designed and configured High Altitude Balloon (HAB) on-board, tracking, and retrieval systems.
- Developed an 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).
- Planned and ran STEAM workshops for 3rd – 9th graders.

PERSONAL PROJECTS

- Co-created 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*
- Developed Javascript-based academic citation conversion engine and Apache / PHP web app; 1000+ weekly visitors.
- Co-created music queue web app for crowd-sourced playlists with Meteor, MongoDB. *Hack@Brown hackathon team*
- Co-created visualization of socioeconomic data on Hubway stations using NodeJS, D3.js. *Brown Datathon team*
- Co-created app to show public sentiment of firms by analyzing news coverage. NodeJS, MongoDB. *HackHarvard team*
- Designed Raspberry Pi-based alarm clock with Python backend to web interface.

SKILLS

Languages	Strong in Java; Proficient in Javascript, C & Python; Experience with C++, Verilog, Go
Tools	Strong in jQuery, Bootstrap, FreeRTOS & Git (CLI); Proficient in NodeJS, React, Python Tornado, ROS
Other	Experience with CAD (Inventor, OnShape, Blender), 3D Printing, Laser Cutting & Lathe Experience with Raspberry Pi, Arduino, Atmel MCUs, FPGAs (minimal), and digital/analog components Experience with graphic design (Premier, GIMP, Photoshop) Licensed amateur radio operator (KC1ICW), student pilot (can fly solo), and FIRST Robotics (FRC) alum