

# Daniel Baker

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## EDUCATION

### University of Illinois Urbana-Champaign

Champaign, IL

*Bachelor of Science in Computer Engineering, Bachelor of Arts in Economics*

*Aug. 2021 – May 2025*

**GPA:** 3.9/4.0

**Honors:** Electrical and Computer Engineering (ECE) James Scholar Honors Student, Dean's List, Computer Systems and Programming (ECE220) Honors Program

**Relevant Coursework:** Computer Systems Engineering (ECE391) (IP), Algorithms and Models of Computation (ECE374), Applied Machine Learning (CS441) (IP), Data Structures (CS225), Analog Signal Processing (ECE210)

**Involvement:** University of Hong Kong Exchange Student Program (Spring '24), ECE220 Course Assistant, Illini Boxing Team, Illinois Space Society, Delta Chi Fraternity

## EXPERIENCE

### Software Engineering Intern

May 2023 – July 2023

*Northrop Grumman*

*Rolling Meadows, IL*

Designed and implemented software and hardware to accurately and efficiently test and debug RF Systems.

- Improved a test's efficiency by approximately 50% by designing, simulating, and integrating a circuit card with a test fixture that automatically switches sixteen input/output paths through selections of switches and indicators.
- Created a manufacturing test procedure for a product line after learning LabView in collaboration with team experts. Specifically, I designed and programmed automated VNA calibration sequences, Excel graph plotting and analysis, user-intuitive test instructions, and pass/fail recognition.

### Electrical Engineering Intern

May 2022 – August 2022

*Eberhard Manufacturing Company*

*Arlington Heights, IL*

Troubleshooted and upgraded electro-mechanical products and developed embedded systems.

- Developed and programmed (C) an embedded system for the quality departments of two mass production facilities to test and ensure approximately 60,000 switch locks per year are made to standard. Focused on an intuitive user experience in using an LCD screen, rotary encoder, and finite state machine structure.
- Improved efficiency of electro-mechanical units by tailoring the power delivered to each model through pulse-width modulation; reduced average current draw and maximum inrush current by 32.6% and 28.9% respectively.

## PROJECTS

[Personal Page](#) | *JavaScript, React.js, HTML, CSS, Node.js, GitHub*

July 2023 – Present

I launched and am continuously developing a personal website via [GitHub Pages](#), which highlights my personality, experience, and skills, to create my first front-end web development project experience.

- Designing and implementing a responsive UI (HTML, CSS), while ensuring a seamless experience across various devices and screen sizes.
- Leveraging React.js frameworks and packages (Material UI, VerticalTimeline, Router DOM) to create dynamic and interactive pages, enhancing user experience.

### Spaceshot

August 2021 – Present

*Illinois Space Society*

*Champaign, IL*

Research and develop embedded hardware and software necessary for the avionics system for [Spaceshot](#) rocket - a student project dedicated to making a rocket that reaches space.

- Developing industry skills and knowledge in serial communication, power conversion, KiCad EDA, and embedded C/C++ programming in collaboration with students and mentors to create PCBs for the avionics system.
- Created various PCBs within the avionics stack, most notably a flight recorder or "black box" that ensures flight data acquisition through IMU, barometer, accelerometer, and microcontroller regardless of launch outcome.

## TECHNICAL SKILLS

**Languages:** C/C++, x86 Assembly, Python, JavaScript, CSS, HTML, LaTeX

**Developer Tools:** KiCad, LabView, Git/GitHub, Linux, GNU Debugger, React.js, Node.js, Cadence Design Software, Docker, Microsoft Office

**Industry Skills:** Electronic Design Automation (EDA), Embedded Systems, UI/UX, Web Design, Machine Learning