Daniel Baker

LinkedIn | danielbaker1102@gmail.com | (312) 619-8597

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-Specific Skills: Electronic Design Automation (EDA), Embedded Systems, UI/UX Design, Machine Learning