Connor Magnuson

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EDUCATION

University of Illinois Urbana-Champaign — Expected May 2027
Bachelor of Science in Computer Science — *GPA: 4.00/4.00, Dean's List, James Scholar*
- **Relevant Coursework:** Data Structures, Algorithms and Models of Computation, System Programming, Operating System Design, Computer Architecture, Discrete Structures, Database Systems, Numerical Methods, Calculus I-III, Differential Equations, Probability and Statistics

PROFESSIONAL EXPERIENCE

Android Software Engineering Intern, Midtronics, Willowbrook, IL — June 2025 - August 2025
- Built a comprehensive **instrumentation testing framework** to validate HMI screenflows across all locales
- Revamped internal **libraries and workflows,** streamlining localization and product customization
- Engineered a **Jenkins CI/CD pipeline** to flag translation display issues and compile screenflow assets

Software Engineering Intern, RR1 Solutions, Naperville, IL — July 2024 - August 2024
- Implemented **real-time** server status reporting using WebSockets, enabling monitoring for **thousands of users**
- Utilized protocols and codebases from multiple product teams to deliver **rapid and reliable** client notifications

Course Assistant, Computer Science, Grainger College of Engineering — January 2025 - Present
- Host weekly office hours and **co-teach** in-person recitation sessions for large student cohorts
- Respond to forum posts and provide guidance in C++ and **algorithmic problem-solving**
- Support students in developing foundational programming and **computational thinking skills**

TECHNICAL PROJECTS

Illini Solar Car Cloud-Based Telemetry System (Java/React/Python/MQTT) — August 2024 - Present
- Engineered a **redundant, low-latency** cloud telemetry platform to replace a range-limited antenna system
- Streamed **16,000+** CAN messages per minute with synchronized local and cloud datalogging and **>99% uptime**
- Supported deployment during competitions, enabling **real-time monitoring** of **180+ vehicle metrics**

Food Pantry Bookkeeping Software (Svelte/AWS/Firebase) — December 2020 - June 2023
- Developed a **secure** web app, enabling volunteers to serve **200+ families monthly**
- **Automated report generation** reducing monthly reporting time from **3 hours to 3 seconds**
- Optimized customer check-in flow, improving overall **service efficiency** by **>50%**

Soap Box Derby Live Race Results App (Svelte/AWS) — June 2017 - Present
- Co-developing and **scaling** a web app and custom timing platform to broadcast **real-time** race results
- Onboarding and mentoring **15+ race cities**, enabling **thousands of spectators** to follow results remotely

LEADERSHIP AND TEAM EXPERIENCE

Strategy and Telemetry Subteam Co-Lead & Board Member, Illini Solar Car — May 2025 – Present
- **Mentor** new members and **coordinate project timelines** across electrical and mechanical subteams
- Lead strategy discussions for **system reliability** and telemetry **data ingestion** during competitions
- Support **cross-functional communication** between leadership, software, and hardware teams

Lead Programmer, First Tech Challenge Robotics Team — September 2021 - May 2024
- Developed and optimized **autonomous and remote-control robot** functionality using **innovative** libraries
- Collaborated with mechanical and strategy teams to achieve **two podium finishes** at the Illinois State Finals
- Guided programming team members in iterative testing, debugging, and **embedded state machine design**

TECHNICAL SKILLS

Programming Languages: Verilog, MIPS, C/C++, Java, Kotlin, Python, TypeScript, JavaScript, HTML, CSS
Embedded & Hardware Systems: Arduino, Raspberry Pi, ESP32, MQTT, gdb, Valgrind, Linux, C
Full-Stack Development: React, Svelte, Node.js, Express, REST APIs, WebSockets, Flask, FastAPI, SQL, Firebase, MongoDB, QuestDB
Cloud & DevOps: AWS, Azure, DigitalOcean, Jenkins, Vercel
Data Analysis & Visualization: NumPy, Pandas, Matplotlib
Tools & Other: Git, GitHub, Bitbucket, Android Studio, VS Code, Jira, LaTeX, Slack, Canva, IFTTT, Microsoft Office