Nathan Paskach

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Professional Summary

Embedded hardware engineer motivated by solving challenging problems with digital electronics.

Education

Iowa State University, (Fall 2018-Spring 2023)

- Bachelor of Science in Computer Engineering
- 3.39 Cumulative GPA

Work History

Vermeer Embedded Hardware Engineer (May 2023-Present)

- *Updated old designs to use modern microcontrollers to cope with chip obsolescence.*
- *Created development boards to explore new microcontrollers and their capabilities.*

Vermeer ATS Summer Intern (May-Aug 2022)

- *Began prototyping a more accurate moisture sensor for round balers.*
- *Designed and built a radio base unit module compatible with various industrial equipment.*

Vermeer AG Spring-Summer Co-op (Jan-Aug 2021)

- *Optimized round baler code to decrease build time from 30+ minutes to 14 minutes.*
- *Built a new baler simulator to allow full manipulation of all controller inputs.*

John Deere Summer Intern (May-Aug 2019-2020)

- *Wrote software tools in JavaScript, C#, and Python currently in use by full-time employees.*

Leadership and Volunteering

Iowa State Cyclone Marching Band Guide (Feb 2020-Dec 2021)

- *Took responsibility for ensuring band members in my rank memorized required music.*
- *Role model and resource for teaching marching fundamentals and musical performance.*

Cardinal Space Mining Club Controls Team Member (Aug 2018-May 2020)

- *Led a team in building a model rover, programmable with tiles, for use by kids at the Science Center of Iowa.*
- *Designed circuits for controlling a robot designed to mine Martian regolith.*

Team Neutrino Graphics Manager (Aug 2016-May 2018)

- *Created newsletters to send to team sponsors and partners.*
- *Updated and enforced brand standards to strengthen team identity and wrote a graphics manual for future members.*

Engineering 0.101 Super Summer Class Teacher (May 2016-2018)

- *Taught basics of electronics and engineering to 30 students in grades 1st-8th.*

Edwards Elementary Maker Tech Camp Teacher (May 2016-2018)

- *Explained and demonstrated simple programming, circuits, and soldering to 30 elementary school students.*

Skills

- C, C++, Python
- Altium Designer
- Autodesk EAGLE
- Solidworks CAD
- System Integration
- Soldering

Accomplishments and Projects

- Handheld microcomputer that runs Tiny BASIC designed around the Z8671 CPU
- Model rover that kids can program with plastic tiles in a control panel, now on display at Science Center of Iowa
- Telescope mount that tracks a target in the sky using stepper motors and a computer application
- Wristwatch that tells the current temperature of its surroundings
- Repurposed 36-year-old Super Pac-Man arcade cabinet to play a game of my own design, Boxman (programmed in Python), and had it placed under contract at a local arcade
- Remote controlled blimp using a three-foot helium balloon and custom PCB