

# Matthew Felsen

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## Skills

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C, C++, C#, Arduino, Python, Windows Powershell, MATLAB, VHDL, JavaScript, Haskell, Data Structures & Algorithms

## Experience

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### John Deere

System Performance Engineering Intern

May 2019 – August 2019

- Validated and verified on-board and off-board end-to-end solutions
- Conducted test cases on software at system level to satisfy performance standards
- Automated master data set and targeted key metrics for quarterly reporting using Python

Product Engineering Intern

May 2018 – August 2018

- Analyzed and designed Hardware in the Loop software test system architecture for next generation controllers
- Wrote and improved scripts for Agile tools to streamline workflow
- Acquired skills in CAN protocol and Model Based Software Development

### Kiewit

Electrical Design Intern

August 2015 – December 2015

- Responsible for creating and editing schematics across 2 different contracts
- Designed electrical circuits using MicroStation

## Projects

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LED Pace Trainer

- Won **top 10 best hack** at PickHacks Hackathon
- LED strip designed to run at a certain speed to pace for timing-based sports like Swimming and Track
- GUI and Microcontroller written in C# and C++

Window Weather Vent

- Window insert that automatically controls air flow from atmosphere to room based on temperature and humidity data
- Provisional patent** filed to demonstrate proof of concept
- Lead Electrical Engineer who oversaw 4 members on electrical team

Biometric Security Camera

- MicroPython based security camera that implements Machine Vision to identify and track faces and objects
- Microcontroller transmits PWM signal to servo motor based on an algorithm to keep faces in the middle of camera's FOV.

## Education

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University of Kansas

- B.S. Computer Engineering

January 2018 - May 2021

**3.52/4.00**

Missouri University of Science and Technology

- Pi Kappa Alpha Fraternity

August 2016 - December 2017

## Activities

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Missouri S&T Swim Club **President & Founder**

November 2016 – December 2017

- Founded and led organization of 60 recruited members
- Oversaw 5 executive officers
- Facilitated communication between 20 teams
- Responsible for \$6,000+ annual budget and assets