

# JACOB HOFFMAN

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Portfolio Website - <https://jacobhoffman.tk/>

## EDUCATION / COURSEWORK

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- Senior at Carnegie Mellon University. (15-410) Operating System Design And Implementation
- B.S. In ECE | May 2020 (18-461/661) Intro to Machine Learning For ECE(Graduate)
- M.S. In ECE | May 2021 (15-213) Introduction to Computer Systems
- Dean's List Spring 2018 | 3.38 GPA (18-491) Digital Signal Processing

## WORK

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- **General Motors | Embedded Controls Intern | Stability Of Vehicle | Summer of 2019**

Applied control theory concepts to design a brake system for a trailer. The system included ABS and ESC safety features. The system detected the sway of a trailer in real time and dampened sway oscillations by engaging the brakes appropriately. This will prevent trailer accidents and save lives.

- **CMU ECE | Signals Researcher | Ultrasonic Positioning Systems | Summer of 2018**

Worked with Professor Sankaranarayanan on close range ultrasonic positioning systems for blind person navigation. Chirps, STFTs, and FFTs are some of the DSP concepts used to implement the system.

- **CMU ISR | Software Researcher | Data Mining for Automatic Program Repair | Summer of 2017**

Data mined GitHub repository bugs and contributed this data into existing SQL databases to be used for automatic program repair. Analyzed this data in R to verify coding practices which contribute to projects with less errors.

## SKILLS

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- **Programming languages** : Python, C, C#, Java, R, MATLAB, Javascript, HTML, CSS, and MYSQL.

## MERITS

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### Personal Projects

- **Design** : Ran a successfully backed Kickstarter product called the Chochin Wall Lamp. Accrued \$1,500 of Kickstarter backing over 39 days. (robustinnovations.org)
- **Web Development/Entrepreneurship** : Cofounded Optimist Track NYC. Utilized web development skills which made the running club grow to over 20 athletes. (jeffteta.tk)
- **Patenting** : Pending patent on a technology for the guitar industry. It is a technology that takes advantage of the resonance of a body of a guitar to allow guitars to double as a bluetooth speaker.

### Athletic Achievements:

- Three time CMU Buggy King of the Hill 2017-2019.

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