Jeffrey Tsaw

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EDUCATION

Carnegie Mellon University – College of Engineering **Pittsburgh, PA**
B. S. in Electrical and Computer Engineering *May 2021*

- QPA: 3.92 | Dean's List Fall 17-18
- Courses: Principles of Imperative Computation, Structure and Design of Digital Systems, Introduction to Computer Systems, Signals and Systems

PROJECTS

BMO – Interactive Portable Gaming Console **Pittsburgh, PA**
Software Developer, Manufacturing Engineer *January 2019*

- Designed and developed an interactive portable gaming console containing Tetris, Snake and Breakout on JavaScript, which ran on a Raspberry Pi powered by Windows IOT
- Integrated Katspaugh IPA API, and ResponsiveVoices.js API to create an interactive assistant that mimics human speech patterns
- Manufactured a surrounding case using acrylic and 3D printed resin to create a retro Gameboy case with operating buttons

The Empathetic Jukebox – 15-112 Term Project. **Pittsburgh, PA**
Software Developer *April 2018 – May 2018*

- Created a music player that plays songs from user's playlists on Spotify based on user's emotions using Python, OpenCV, and BeautifulSoup
- Integrated machine learning in OpenCV to detect facial emotions, as well as Spotify API with web scraping to play the songs from YouTube

CrackHQ Trivia Solver **Pittsburgh, PA**
Software Developer *February 2018*

- Integrated Microsoft Azure's OCR, NLP, and Bing Search API to create a context aware environment that solves questions from the HQ Trivia Game using JavaScript and React.js
- Worked collaboratively and designed back-end and front-end over a 24 hour period

VGA Breakout **Pittsburgh, PA**
Hardware Developer *November 2018*

- Designed and developed the game breakout using System Verilog, and synthesized the working game to an FPGA, and included features such as paddle AI, and selective ball velocity
- Integrated a VGA display that was synthesized using the FPGA

PROFESSIONAL EXPERIENCE

Bettinger Group – Carnegie Mellon University. **Pittsburgh, PA**
Principal Investigator *May 2018 – Present*

- Designed less invasive and more efficient flexible gel-based neural probes through investigating conductivity of gold nanostructures under strain on a flexible substrate under guidance from Professor Christopher Bettinger
- Discovered a relationship between path length of nanostructures and conductivity at varying degrees of strain

EXTRACURRICULAR ACTIVITIES

Academic Development – Carnegie Mellon University **Pittsburgh, PA**
EXCEL Leader *September 2018 - Present*

- Designed and lead supplementary classes for Calculus 3 and Physics II for multiple groups of 10 students
- Developed proficiency in communication and organizational skills through engaging with students and finding creative ways to explain challenging topics

SKILLS

Languages: English (Native), Mandarin (Native), Cantonese (Native), French (Intermediate), Russian (Elementary)
Technical Skills: Python, C, JavaScript, System Verilog, MATLAB, AutoCAD, Microsoft Excel
Interests: Math, Hockey, Tennis, Jazz, Football