Matthew Chan

(650) 714-7079 ☎
chan.matth@northeastern.edu ✉
mattpchan.com ⌂

Education

Northeastern University   Boston, MA
Bachelor's in Computer Engineering and Computer Science (GPA: 3.420)   May 2022
Coursework: Embedded Systems, Algorithms, Computer Systems, OOD, Logic and Computation

McGill University   Montréal, QC
N.U.in Study Abroad in Canada   August 2018 - December 2018

Work Experience

Flex LTD.   Milpitas, CA
Electrical Engineering Co-op   January 2020 – June 2020
- Developed ESP32 capacitive touch algorithm in C and implemented into client's product using I2C communication protocol, designed an integrated Capacitive Sensor hardware fixture for product
- Integrated thermostat software in C with IoT connectivity, ToF sensor, capacitive touch, and LED controller
- Mitigated sound distortion and clipping of a speaker system including an ultrasonic directional speaker and an exciter speaker taking input using magnetic field produced by phone speaker through analyzing waveform patterns and implementing various filter circuits to optimize signal to noise ratio
- Tuned conductive ink antennas by measuring the S11 reflection coefficient and using Network Analyzers, tuning Pi-Network circuits, and analyzing Smith Charts for 2.44GHz, 5GHz, and dual band reception
- Created schematic in Cadence OrCAD/Allegro suite, designed board layout, and design for manufacturing with cost in mind using Arduino Uno for a 7 segment display alternative designed to undercut price of traditional 7 segment display
- Assisted in troubleshooting client's products' battery protection circuitry, developed report and plan of action

OLogic Inc.   Santa Clara, CA
Computer Engineering Intern   May 2019 – August 2019
- Engineering consultancy with clients including, but not limited to: Facebook, Google, NVIDIA, Knightscope
- Found potential dangers with battery when wheels of robot rotate while not powered on and designed a battery protection circuit to prevent and change path of generated electricity
- Calibrated optical sensors in robots and implemented robot's battery protection circuit
- Used and tested ideal diode circuits to determine optimal frequencies of rectification and implemented into circuits for optimal power consumption and increased efficiency with minimal voltage/IR drops

Projects

Earnz iOS Mobile App   Boston, MA
iOS Software Development   September 2020 – Present
- Small business loyalty and rewards platform as a project for club's client
- Front end developed using React Native, implemented Java Spring Boot micro service architecture
- Used Heroku and Heroku Postgres for backend database deployment solution

Personal Website   Boston, MA
Front End Web Development   August 2020 – Present
- Designed and developed front end of personal web page using Bootstrap, Node, and React components and libraries with CSS, HTML5, Javascript, and Flex

Gravitational Generator Project   Boston, MA
Lead Designer and Tester   January 2019 – April 2019
- Led a team of 4 to design and develop a system of gears connecting main rotational shaft to electricity generating motor producing 1.5 Watts of power from gravity using SolidWorks and AutoCAD
- Created the wiring, circuitry, and Arduino program to track the power output and voltage being produced

Skills and Interests

Languages: English, Mandarin, Cantonese, Spanish
Technical Skills: C/C++, Python, JavaScript, Java, HTML, CSS, Altium Nexus, AutoCAD, SolidWorks, MATLAB, SimuLink, Logic Design, Arduino, Soldering, Electrical Wiring, PCB Design, Rework, Raspberry Pi, Linux, ESP32, Cadence, Allegro OrCAD, Schematic, RTOS, I2C, RF Antennae, FCC Regulations
Interests: Cars, Escape Rooms, Porsches, Squash, Track Days, Badminton, Volleyball, Basketball, Photography