Zoe Chen

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Education

Cornell University, College of Engineering, Ithaca, NY   *Expected Jan 2023 - Dec 2023*
     Degree: Master of Engineering, Electrical and Computer Engineering

Cornell University, College of Engineering, Ithaca, NY   *Aug 2019 - May 2023*
     Degree: Bachelor of Science, Electrical and Computer Engineering
     GPA: 3.67
     Awards: Dean's Honor List (Spring 2021, Fall 2021, Spring 2022)
     Relevant Courses: Analog Integrated Circuit Design, Nanofabrication and Characterization of Electronics, Digital System Design Using Microcontrollers, Power Electronics, Microelectronics, Probability and Inference of Random Signals and Systems, Embedded Systems, Intelligent Physical Systems, Computer Networks & Telecommunications, Mechatronics, Object-Oriented Programming and Data Structures with Java, Signal Processing, Digital Logic and Computer Organization, Python, Physics II: Electromagnetism

Professional Experience

Undergraduate Teaching Assistant for Mechatronics (MAE 3780)   *Aug 2022 – present*
Cornell University, Sibley School of Mechanical and Aerospace Engineering, Ithaca, NY
- Assist 10-15 students during lab sections with debugging lab equipment, breadboarding electrical circuits, and programming with an Arduino
- Support 50 teams of students with their final project to compete in the annual autonomous robotics cube collecting competition

Electrical Engineering Intern II   *Jun 2022 – Aug 2022*
Thermo Fisher Scientific, Millersburg, PA
- Collaborated with 7 engineers in the Manufacturing Department to mitigate an operator's risks when handling legacy units for the Machine Safety Risk Reduction Project (MSRR)
- Redesigned electrical schematics and physical layouts of manufacturing machinery to include safety controllers and relay modules through AutoCAD electrical
- Prototyped the addition of a safety controller to existing electro-mechanical control systems using an Allen Bradley PLC and HMI
- Implemented an automated amperage data collection and display system to alert operators of a potential crack in sealing bands using a C-More HMI and Allen Bradley PLC

Phase IIA Project Manager of Design by Biomedical Undergraduate Teams (DEBUT)   *Oct 2020 – May 2022*
Cornell University, Meinig School of Biomedical Engineering, Ithaca, NY
- Directly oversaw 14 undergraduate Phase II sub-team members with prototyping a kit designed for early detection of driveline infections in patients with left ventricular assist devices (LVAD)
- Communicated team and project progress to other team leads and advising faculty, organized material orders to submit to operations subteam, and managed lab schedules for the Phase II subteam members
- Led the creation of an innovative, patentable, and economically feasible product for submission to VentureWell's DEBUT competition

Electrical Engineering Intern   *Jun 2021 – Aug 2021*
Katapult Makerspace, Dillsburg, PA
- Developed an automated paper football game and website using sensors, 3D printed and laser cut parts, Wemos D1 Mini Pro, and Google Firebase for MakeBoxes, a subscription service striving to make hi-tech STEM projects accessible to middle school students
- Won first place in Pitch Day competition with company stakeholders judging and had product shipped out to subscribers in November 2021

Undergraduate Teaching Assistant for Investigative Biology Laboratory (BIOG 1500)   *Jan 2020 – May 2020*
Cornell University, College of Agriculture and Life Sciences, Ithaca, NY
- Mentored students in preparation for a career in the biological research sector and addressed students' concerns
- Held office hours for 200+ individuals, answer conceptual questions, and recommended learning methods
- Performed demonstrations on how to properly use lab equipment (e.g. spectrometer, micropipette)

Skills

- Programming / Software Languages: Arduino, C, CAD (Onshape), C-More, CSS, FactoryTalk View Studio, Google Firebase Console, HTML, Java, JavaScript, LTspice, Python, RStudio, Studio 5000 Logix Designer, Verilog
- Fabrication Skills: 3D printing, AutoCad Electrical, laser cutting, soldering, crimping, digital multimeter, oscilloscope

Extracurriculars

- **The Assorted Aces**, Creative Team Director & Showcase Committee – Cornell's first hip hop dance troupe with a focus on teaching complete beginners how to dance (Sep 2021 - present)
- **E.motion**, Performance team – Cornell's Kpop dance group (Sep 2019 - present)