Elizabeth P. Wu

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EDUCATION

Johns Hopkins University
Biomedical Engineering
Conc. in Biomechanics
B.S. expected May 2020
GPA: 3.69

Lick-Wilmerding High School
May 2016 | San Francisco, CA

AWARDS

Dean's List (2016-present)
BMES Undergraduate Design Competition 2nd Place (2017)
DEBUT Challenge Honorable Mention (2017)
ASME iSHOW Finalist (2017)
Bay Area Global Health Innovation Challenge Quarter-Finalist (2017)
Design of Medical Devices Conference Design Showcase Grand Prize Winner (2017)
National Merit Finalist (2016)
Nelson F. Peterson Scholarship (2016)
Team USA, Triathlon Age Group
FIRST Tech Challenge Robotics NorCal Finalist (2015)

COURSEWORK

Organic Chemistry 1+2
Manufacturing Engineering
Systems and Controls
Molecules and Cells
Models and Simulations
Mastering Electronics
Systems Bioengineering (Data Science)
Biomaterials

SKILLS

Manufacturing
Proficient:
Solidworks • 3D printing • Laser cutting • Mill
Familiar:
Wire EDM • Lathe • Casting

Programming
Intermediate:
C • C++ • Java • Matlab • LaTeX
Familiar:
Python

Language
English • Chinese (Mandarin)

Misc
Basic graphic design • Adobe Suite
Video editing • Writing

EXPERIENCE

UCSF Surgical Innovations
Roy Lab and Harrison Lab | Engineering Intern
May 2019 – August 2019 | San Francisco, CA

- Prototyped soft pneumatic actuators for SmartDerm, a patient bed paired with smart wound dressings that turns at-risk patients to prevent pressure ulcers
- Performed data analysis on patient data for Tabla, a diagnostic tool using controlled sound input to detect lung disease
- Manufactured silicone wafer artificial lungs using a CNC mill and SLA printer for use in animal study

Johns Hopkins University Applied Physics Laboratory
Research and Exploratory Development | Technical Assistant
May 2018 – August 2018 | Laurel, MD

- Performed testing of overpressure wave effects on human head and neck to improve the safety of personal protective equipment for warfighters.
- Performed testing and analysis of a novel head surrogate that provides quantitative, temporal, and biofidelic data for ballistic testing of warfighter helmets.
- Documented both projects as a deliverable to the government sponsor.
- Adjusted CAD files for 3D print and CNC lathing of test equipment.
- Showed initiative by finding projects to work on, and wrote 5 standard operating procedures for internal use.

Whiting School of Engineering Manufacturing Department
Makerspace Teaching Assistant
August 2017 – Present | Baltimore, MD

- Teaches students how to use power tools and CAD, empowering students to apply knowledge outside classroom settings.
- Writes documentation on tools for use by Hopkins students and affiliates.
- Works on projects, such as making a virtual reality tour and designing demonstration parts.
- Maintains equipment and assists students with FDM printing, laser cutting, and woodwork.

Kaleyedos | Co-founder and Lead Prototype Developer
December 2016 – 2017 | Baltimore, MD

- Core member of CBID design team creating an inexpensive, deskilled, cloud-integrated tool that uses computer vision concepts to aid in diagnosis of Retinopathy of Prematurity in a NICU setting.
- Designed a universal phone fundoscope and standalone device for laboratory testing and demonstrations at competition.
- Created visuals and diagrams for research papers, scientific posters, and patent applications.
- Represented Kaleyedos at 5 business competitions (Kaleyedos was recognized in 12 national competitions, winning $50,000 total).

Digital Media Center | Special Projects
October 2016 – 2018 | Baltimore, MD

- Designed hacker workshops and maintained 3D printers.
- Consulted for patron projects and taught skills necessary for implementation.
- Expected to have good interpersonal communication skills and teamwork ability.

TacPac | Lead Prototype Developer
September 2017 – December 2017 | Baltimore, MD

- Prototyped device to reduce organ transplant rejections by creating an automated immunoassay system with a telemedicine pipeline to accurately gauge Tacrolimus levels in the blood.

CLASS PROJECTS

Precision Care Medicine
Predictive Approach to Acute Kidney Injury
August 2019 – Present | Baltimore, MD

- Creating a machine learning model to predict the occurrence of acute kidney injury using Epic data from the Johns Hopkins Medical Hospital Anesthesia Department

Real World Human Data
Analysis and Visualization
January 2019 – May 2019 | Baltimore, MD

- Project based class with multiple project involving the analysis of real data in Matlab, including Fitbit, FMRI, Uber, Reddit, and text datasets, to reveal trends in human behavior

EXTRACIRRICULARS

Residential Life Residential Advisor
August 2018 – December 2018 | Baltimore, MD

- Supervises 46 residents, organizes weekly floor programs, and assists residents with personal and academic issues.
- Responsible for student safety and policy enforcement on weekly duty nights.

JHUnions Programming Board
December 2018 – present | Baltimore, MD

- Designs and runs weekly events for the Johns Hopkins Student Union within Student Leadership and Involvement