

Summary of Qualifications

- Eager to automate research and optimize biochemical manufacturing using robotics and electrical engineering principals
- Proficient electrical and biochemical lab experience through coursework, jobs, and research experience
- Technical skills include experience in embedded systems design, C, Java, JavaScript, Linux, LXD, Apache, Autodesk Inventor, 3D printing, laser cutting, rapid prototyping, Google Scripts API, WordPress, and Microsoft Office
- Strong leadership, communication, and collaboration skills demonstrated through 4+ years in leadership roles
- Intercultural experience with three years of French and through a Japanese cultural exchange program

Education

University of Washington Seattle, WA GPA 3.19 – Expected June 2022
B.S. in Electrical Engineering – College of Engineering, Department of Electrical and Computer Engineering
Relevant Coursework through Winter 2020: Bioengineering Problem Solving, Differential Equations, and Applied Linear Algebra and Numerical Analysis, Statistics for Engineers, Fundamentals of Electrical Engineering, Signals and Systems

Mountlake Terrace High School Mountlake Terrace, WA GPA 3.73 – Graduated 2018
Graduated with a STEM Honors High School Diploma
Awards: 2018 Science and Technology Departmental Awards, 2018 Student of the Year, 2018 Dare to Care
Relevant Coursework: Intro to Engineering and Design, Principals of Engineering, Biotechnology, STEM Capstone

Relevant Experience

Student Research Assistant

UW Institute for Protein Design (General Protein Core) Seattle, WA (01/2019 – Present)

- Supported the high throughput expression of de novo proteins in 1L high density cell cultures by genetically transforming, harvesting, and microfluidizing or sonicating cells – with capacity of 24 protein designs a day
- Validated, analyzed, and purified samples through spectroscopy, SDS-PAGE, Immobilized Metal Affinity Chromatography (IMAC) and Size-Exclusion Chromatography (SEC)
- Designed custom equipment for the lab – one project saved the lab \$300 per unit
- Worked a minimum of 10 hours weekly while also maintaining a full schedule at the University of Washington.
- Assisted in daily lab operations and maintenance, including restocking and ordering common laboratory consumables
- Made and aliquoted common solutions of biochemical reagents, such as common antibiotics, buffers, media, etc.

Project Lead/Bioengineer

STEM Capstone/Science Fair Project Mountlake Terrace, WA (08/2017 – 06/2018)

- Designed and built a successful prototype which could non-invasively detect veins using near-infrared light
- Recognized existing solutions and ensured solution would cost less and competitive – resulting in only \$80 per unit
- Won 1st place at the state science fair, 1st place in research at the 2018 NWABR BioExpo, 2nd place from the International Society for Optics and Photonics, 3rd place at the regional science fair, and the US Army Award in Biomedical Sciences

Student Research Assistant

UW Center for Neurotechnology (formally CSNE) Seattle, WA (06/2016 – 08/2016)

- Worked with a graduate student and another high school research assistant to aid in research
- Learned and practiced technical skills such as developing Printed Circuit Boards (PCBs), designing embedded systems (around an ATMEGA168), programming in C, and other electrical/embedded systems engineering skills
- Completed a 10-week embedded systems project to teleoperate a PR2 Robot through user arm movements
- Exercised scientific/engineering communication and ethics – presenting project to entire research group and public

Additional Experience

Vice-President, Secretary, and Treasurer, Mountlake Terrace High School Robotics Club (09/2014 – 06/2018)

- Designed and maintained the onboard control systems of four different FRC robots
- Directed and rebooted business team on the *FIRST* Robotics Competition (FRC) team: Chill Out 1778
- Developed curriculum, organized, and coordinated four different VEX Robotics Competition Teams