**Tayber J. McMullen**, Mechanical Engineer
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## SUMMARY OF QUALIFICATIONS

Experienced in a range of fields and environments with a detail-orientated mind for engineering design and analysis. A self-motivated engineer with sharp written and oral communication and a background in both professional and academic environments. A positive addition to any team to finish projects who is fluent in the fundamentals of mechanical engineering and aspires to master the next engineering challenge. Pursuing to attain an EIT License and Certification.

## EDUCATION

- University of Washington Tacoma, BS in Mechanical Engineering, *Major GPA: 3.78/4.00* — Graduating June 2023
- Pierce College, AS majoring in Mechanical Engineering, *Cumulative GPA: 3.91/4.00* — June 2021

## PROFESSIONAL EXPERIENCE

*Mechanical Engineering Intern* | *Tres West Engineers*, Tacoma, WA — June 2022 – September 2022

Using engineering fundamentals in heat transfer and fluid dynamics, I surveyed buildings and performed calculations to determine HVAC loads. I completed my calculations using ASHRAE standards, WA State building code, and industry software under the direction of a professional mechanical engineer.

*Electrical Trainee* | *Abacus Electric*, Fife, WA — June 2021 – September 2021

Performed hands-on commercial and lighting renovations under the supervision of experienced electricians.

*AutoCAD Technician* | *Safe Consulting Services*, Snohomish, WA — July 2020 – June 2021

Designed fire alarm systems in AutoCAD starting from floor plan drawings to complete design plans up to apartment-sized buildings learning and using fundamentals in electrical and building structure design.

*Peer Tutor* | *Pierce College*, Puyallup, WA — May 2019 – April 2021

Tutored math, chemistry, and physics from one-on-one to classroom size study sessions requiring strong oral, written, academic, and interpersonal skills to create a welcoming and professional environment for progress.

## NOTABLE PROJECTS

*All projects in full detail here:* tjm253.github.io/blog/

*SAE Aero Design Competition*, Senior Project — Expected April 2023

An ambitious senior team project to design and build a 10 ft. RC aircraft with a high ease of control and lift capacity. Tasked with role of team captain and wing design to compete against around 68 other schools in April 2023.

*Multitool and Plumb Bob Machining Project*, Class Project — June 2022

A hands-on project where I machined a multitool and plum bob using lathes and mills, heat treated using a kiln, and verified tolerances using GD&T and high-precision instruments.

## SKILLS & PROFICIENCES

*Software:* *SolidWorks* (certified), *AutoCAD 2D* (fluent), *MATLAB* (intermediate), *C++*, *Python, G-Code, Julia* (novice)

*Proficiencies*: mechanical design, system dynamics, robotics, thermodynamics, heat transfer, math, physics, material science, finite element analysis (FEA), 3D printing, MS Office, Linux, Jupyter Notebook, Arduino, GD&T

## RESEARCH

Organ Cryopreservation Undergraduate Research – Seattle, WA — January 2022 – Present

Researched methods to cryopreserve human tissue for practical medical usage under Dr. Zhiquan Shu of University of Washington Seattle. Tasked with researching heart valve cryopreservation to apply for university publication.

## INVOLVEMENT AND VOLUNTEERING

*Elected Officer* | *IEEE Club* – Tacoma, WA — June 2022– Present

Elected officer of the IEEE club which combines the efforts of +30 engineering students from multiple disciplines to design and build a robot that will this coming year participate in the 2023 RoboBrawl Competition 30 lb. division. Current assignment is to oversee part of the design of the radio-controlled battle robot.

*Teacher* | *Immanuel Homeschool Co-op* – Puyallup, WA — September 2019 – March 2020

Undertook the voluntary responsibility to teach elementary-grade students once a week the fundamentals of earth and applied science. I solely developed a year-long curriculum for the entire year which included science experiments, lessons, games, and crafts to teach them about science and the world.

*Volunteer* | *Door of Faith Orphanage* – Baja California, Mexico — April 2019

Volunteered with a team where we collaboratively built fences, painted houses, and landscaped for the for the Door of Faith Orphanage and translated for the volunteer group using elementary Spanish.