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## SUMMARY

- Aeronautics & Astronautics Engineering, with a focus on coding, embedded systems, and simulation
- Thrive on the real-world impact of coding, embedded systems, and simulation within the aerospace
- Proficiency in languages: Arabic (Beginner), German (Beginner), and Korean (Beginner)
- Programing: MATLAB (Proficient), Arduino UNO (Proficient), Python (Moderate), C/C++ (Moderate)
- Coursework: See comprehensive breakdown on my LinkedIn

## EDUCATION

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### University of Washington, Seattle, WA

Jun. 2022 - (Exp. grad) Jun. 2024

#### Bachelor's of Science in Aeronautics and Astronautics, Senior

- Spring Courses: Space System Design II: SPACE Lab PPT Thrust Stand (EP capstone) - Software specialist utilizing Python as well as arduino, Data Programming, Introduction Public Speaking

### Pierce Community College, Puyallup, WA

Jan. 2020 - Jun. 2022

#### Associates of Science, Aerospace Engineering

- Awards: Dean's list April of 2020 to January 2022

## EXPERIENCE

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### SPACE Lab: PPT Thrust Stand, Software Specialist (Python), Seattle, WA

Jan. - Jun. 2024

- Python: nidaqmx & PySerial to record and calibrate deflection, ensuring accuracy within embedded systems
- Embedded serial communication with Arduino UNO using PySerial for precise motor control in our system
- SPACE Labs vacuum chambers are utilized to test and explore plasma physics in PPT electric thrusters
- ANSYS/ FEA software to analyze and optimize overall designs for enhanced performance and efficiency
- Collaborated in the strategic optimization and design of the thruster stand using 3D printing technology

### Nonlinear Dynamics and Control Lab: Blue Origin RPO - Team Member (Software), Seattle, WA

Jan. - Jun. 2024

- C++ used for autonomous vehicle systems (fixed-wing aircraft, underwater gliders, space launch vehicles)
- Robot arms involving, underwater robots, and autonomous vehicles through embedded systems expertise
- Blender, Python, and C++ utilized for the design of robot arms and underwater robots for overall objectives
- Studied birds, bats, fish, and insects as precise sensing machines in dynamic environments, gaining insight

### Cryogenic Boiling, Purchasing Officer/Heat Transfer expert, Seattle, WA

Mar. - Jun. 2023

- Theoretically calculated properties for enhanced understanding of heat transfer & cooling in liquid nitrogen
- Participated in group-based experimental research to explore and confirm the validity of theoretical findings
- Uncovered: Boiling characteristics, rapid cool-down times, and heat transfer dynamics by immersing aluminum cylinders, along with precise quantitative data on heat transfer during liquid nitrogen quenching

## PROJECTS

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### Aerospace Design - Personal Project, Seattle, WA

Dec. 2022 - Present

- CAD & Slicer software were utilized for the 3D printing of designs, development, and construction of airfoils
- ANSYS software to analyze and optimize airfoil designs printed for enhanced performance and efficiency
- Python for structural simulations, parameter definition, model discretization, and stiffness matrix assembly
- Boundary conditions implemented and result visualization to analyze and interpret the simulation outcomes

### Incompressible Aerodynamics - Vortex Panel Project, Seattle, WA

Mar. - Jun. 2023

- MATLAB used to analyze the aerodynamics of 4 airfoils (NACA 0010, NACA 1410, NACA 2410, NACA 6409)
- XFOIL airfoil software to gain valuable insights into the aerodynamic characteristics of the selected airfoils
- Data acquired containing Cl v.s. Cd, Cd versus  $\alpha$ , Cm v.s.  $\alpha$ , Cl v.s.  $\alpha$ , and Cp v.s. x/c for  $\alpha$  values of 0, 5, & 10
- Airfoil performance were all compared, this establish a foundation for further analysis and optimization

## LEADERSHIP

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### A&A, Undergraduate Student Advisory Council (uSAC) - Senior Class Rep, Seattle, WA

Aug. 2023 - Jun. 2024

- Planning events and improving staff-student communication. Striving to enhance the student experience

### NASA ARTEMIS Challenge - Team Coordinator, Seattle, WA

Jan. - Jun. 2022

- Collaborated closely to meticulously design and 3D print critical parts of the rover, optimizing its design
- CAD and Simulink were skillfully utilized to create highly efficient and innovative components for the project
- Code complications resolved frequently during rover assembly, demonstrating expertise in problem-solving
- Design deficiencies were addressed during assembly, implementing effective solutions for project success

## ACHIEVEMENTS & SCHOLARSHIPS

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University of Washington: NASA Space Grant Consortium 2022 - 2024 • Aeronautics & Astronautics - Lace Erik Scholarship, Robert Max Reynolds Endowed Scholarship • Boeing Scholarship • Joseph F. Sutter Endowed Education Fund in Aeronautics and Astronautics • Pierce Community College: Dean's list April of 2020 to Jan 2022