Felicity Cundiff

[Portfolio](#) | [Email](#) | [Linkedin](#) | (206) 353-3425

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
- MATLAB (Proficient), JavaScript (Beginner), Python (Moderate), C/C++ (Beginner), LabView (Moderate)
- Proficiency in languages: English (Fluent) Arabic (Moderate), German (Beginner), and Korean (Beginner)
- Coursework: See comprehensive breakdown on my LinkedIn

EDUCATION

University of Washington, Seattle, WA   Jun. 2022 - (Exp. grad) Jun. 2024
Bachelor's of Science in Aeronautics and Astronautics, Senior
- Winter Courses: Space System Design I: SPACE Lab PPT Thrust Stand (EP capstone) - Software specialist utilizing Python as well as Arduino, Air Breathing Propulsion, Rocket Propulsion, Aerospace Heat transfer

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

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

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 α, Cm v.s. α, Cl v.s. α, and Cp v.s. x/c for α values of 0, 5, & 10
- Airfoil performance were all compared, this establish a foundation for further analysis and optimization

LEADERSHIP

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

University of Washington: NASA Space Grant Consortium 2022 - 2024 ● A&A - Lace Erik Scholarship, Robert Max Reynolds Endowed, Joseph F. Sutter Endowed Education Fund ● Boeing Scholarship