Josh Gregory

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EDUCATION

University of Colorado Boulder — Boulder, CO
Bachelor of Science (B.S.), Mechanical Engineering, Concentration in Applied Mathematics
Cumulative GPA: **3.82** — Expected May 2024

TECHNICAL SKILLS

Software: Python, Java, MATLAB, R, LaTeX, Inventor, SolidWorks, NX, Fusion 360, 3DS Max, Blender, Star CCM+, Mathematica, SageMath, SimVasvular, XFLR5, OpenRocket, Bash, Slurm, Linux
Libraries: Pandas, SymPy, NumPy, Matplotlib, SciPy, Multiprocessing, Requests
Foreign Languages: Mandarin Chinese (Limited Working Proficiency)

EXPERIENCE

Biofluidics Research Group (CU Boulder) — August 2022 – Present
Research Assistant — Boulder, CO
- Assisted in development of custom codes to analyze stroke mechanisms and blood flow.
- Performed fluid analysis of patient data using SimVascular to inform design of custom codes.

GEEN 2010: Engineering Tools and Analysis (CU Boulder) — August 2022 – Present
Teaching Assistant — Boulder, CO
- Assisted professors in teaching a freshman course on the engineering thought process and problem solving.
- Helped students learn to code in MatLab and think through engineering problems.
- Held office hours and graded assignments to provide individual feedback and assistance to students.

Sounding Rocket Laboratory (CU Boulder) — July 2021 – July 2022
Liquid Engine Development Sub-team — Boulder, CO
- Created in-depth documentation to make computational fluid dynamics (CFD) decisions more repeatable and informed, allowing for full utilization of CFD tools.
- Used Star CCM+ to investigate multi-phase flow throughout the rocket injector.
- Ran multi-phase simulations of the rocket injector to increase simulation accuracy and validate injector design.

High-Altitude Liquid Engine (Oregon State University) — September 2019 – June 2021
Nozzle and Combustion Sub-teams — Corvallis, OR
- Used Siemens Star CCM+ to simulate multi-phase flow throughout a rocket nozzle system.
- Taught other members how to become more proficient in CFD using my previous experience.
- Investigated the mathematical models behind CFD to increase the accuracy and validity of the team's analyses.
- Used Oregon State University's high-performance computing cluster to perform advanced simulations.

Lincoln High School Rocket Club — May 2016 – May 2019
Founder and Lead Engineer — Portland, OR
- Decreased the cost of launching rockets to high altitudes by as much as 90% via a reduction in mass of the launch vehicle from 1 kilogram to 200 grams.
- Created a custom launch computer using a Raspberry Pi and telemetry add-on boards.

Collins Aerospace Internship — June 2018 – August 2018
Engineering Intern — Wilsonville, OR
- Evaluated prototype heads-up displays (HUDs) for future usage in aircraft.
- Designed and 3D-printed testing apparatuses to improve HUD evaluation accuracy.