Jace Dunn

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EDUCATION

Bachelor of Science Computer Science, Bachelor of Science Electrical Engineering (Honors College) Expected Dec 2027

Washington State University, Pullman, WA | Major GPA(s): 4.0 | GPA: 3.93

- Awards: DeVlieg Undergraduate Research Foundation Award, President's Honor Roll, University Achievement Award, Honors College Academic Award, EECS Frederic P. Emery Award, Gary Steele EECS Award

WORK EXPERIENCE

Undergraduate Research Assistant, *Hydrogen Properties for Energy Research (HYPER),* Pullman, WA Aug 2025 – Present

- Developed a replacement for LabVIEW software with a custom backend control system and frontend GUI for multi sensor hardware integration, eliminating $15k per year licensing costs

Thermodynamics Grader, *WSU,* Pullman, WA Aug 2025 – Dec 2025

- Graded and provided feedback on 88 student thermodynamics assignments weekly, ensuring consistency, accuracy, and timely turnaround.

Bioreactor Control Systems Developer, *Kuang's Biotechnology Research Group*, Pullman, WA Dec 2024 - Present

- Implemented precision circuitry and signal conditioning to interface lab-grade pH probes with an Arduino microcontroller, achieving ±0.02 pH accuracy earning the DeVlieg Undergraduate Research Award.
- Led the end-to-end development of a custom bioreactor control system including hardware assembly, PCB design, control system programming, and full hardware integration leading to successful trials on the reactors.
- Ensured the accuracy of sensor readings and robustness of system operation by implementing and testing the fault detection algorithm for data logging and the fail-safe logic.
- Led a team of high school interns in the lab assigning tasks aligned with each student's intended engineering discipline to strengthen their technical skills and improve overall project workflow.

Computer Architecture TA, *WSU,* Pullman, WA Jan 2025 – May 2025

- Evaluated and graded student assignments and exams to ensure understanding of core computer architecture concepts.
- Conducted weekly office hours to provide individualized support and assist students with coursework.

Junior Developer Intern, *Inspire Development Centers,* Sunnyside, WA Jun 2024 – Aug 2024

- Conducted data analysis using Python to seek patterns and improve data integrity for the company.
- Collaborated with the head of IT to research AI applications. Investigated potential AI integration to increase production within the IT department.

TECHNICAL SKILLS

- **Languages:** C, C++, Haskell, Python, ARM Assembly, MATLAB
- **Tools:** Verilog, FPGA Development (Xilinx), Oscilloscopes, LTspice, Fritzing, Git, Linux

CLUBS & ACTIVITIES

LeetCode Committee Member Jan 2026 – Present

- Helped launch programming club, built meeting structure, organized sessions, grew early participation

PROJECTS

Arkangel 1: TVC Rocket (Arduino C) – In Progress May 2026 – Present

- Designing a 3D-modeled rocket airframe and mount system for thrust vector control.
- Developing a custom PCB with STM32-based flight controller and integrated IMU.
- Simulating and testing dynamic stability of rocket to prepare for flight.

Bioreactor Control Systems (Arduino C) Dec 2024 – Present

- Designed and implemented a microcontroller-based control system for bioreactor automation using Arduino.

- Supported ongoing research with an interdisciplinary team focused on optimizing bioprocess parameters for microbial cultivation.
- Designed and assembled a breadboard layout to control buffer dosing, pH reading(s), data logging, actionable control flow based on sensor input. Designing PCB board and encasement for condensed operation.

Maze Generation Analysis (Python) Jun 2024 – Aug 2024

- Developed a maze generation and solving algorithm along with UI applications.
- Programmatically evaluated randomness of the generation using repetition as a metric.
- Refactored the source code of Python's "random.sample" function to produce a more random result.

Centipede (C++) Mar 2024 – Apr 2024

- Reimplemented the classic Atari game "Centipede" with a team using GitHub.
- Conducted code reviews and coordinated individual tasks within the group to meet the project deadline.
- Learned how to plan, make design decisions, and solve complex problems as a team.