Ethan Armstrong

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Education

University of Washington: Seattle, WA | JUNE 2025
- Current overall GPA: 3.6
- Dean's List Spring 2022, Fall 2023, Winter 2023

Aliso Niguel High School: ALISO VIEJO, CA | JUNE 2021
- GPA: 4.06, SAT: 1440
- AP Scholar, Scholar-Athlete, Superintendent's Honor Roll, Teal Cares Award

Experience

Lead Firmware Engineer: Second Sun Laboratories | April 2023 – Current
- Managed creation and integration of firmware across multiple sensors, created interfaces for LTE, BT, WIFI and Serial communications

Lead Controls Engineer: Society for Advanced Rocket Propulsion | October 2021 – Current
- Controls Lead, Lead Engineer on design of software and control systems, manage 3 other engineers

Philanthropy & Fundraising Committee: Pi Kappa Alpha Beta Beta | March 2023 – Current
- Collaborated with others to successfully plan and participate in philanthropy events. Provided valuable insight during committee meetings in the planning of fundraising tactics, and charity events

Related projects

Designed "P.L.O.P" control codebase
- PID and LQR controller, sensor fusion, actuating control surfaces, radio control, ground station linking

Short wave VHF radio PCB
- Designed PCB utilizing STM32, wrote control code, I2C, and Serial Interface, wrote external libraries

Designed drone control systems
- Integrated sensors, designed PID controller, ran simulations, conducted wind tunnel tests

"Rocket Ground" desktop data visualizer
- Used QT to design GPU based GUI, asynchronously pull API data, display real time flight data, send commands

"Image Converter" desktop application
- Used QT to design Windows GUI, Researched and re-implemented image format conversions

"FilePush" File Sharing Website
- Designed and hosted HTTPS website using React and Rust. Designed encryption system for login and storage

Wave Function Collapse generator
- Implemented WFC generator into a self-hosted website, designed API callback system

NGINX proxy server
- Designed a NGINX based proxy server on remote server instance, Integrated GitHub CI/CD for ease of update

Class 1 Rocket build
- Built rocket frame, designed dual deployment flight computer, received NAR level 1 certification

Relevant Skills

- Rust
- C / C++
- Python
- Java
- Java Script / HTML / CSS
- Embedded Devices
- Sensor Fusion
- PCB Design
- Soldering

Extracurricular / volunteer work

- ANHS Varsity Football
- ANHS Wrestling
- ANHS community service
- Pi Kappa Alpha Community Service Volunteer
- Wolverine Field Construction
- ANHS Lift-A-Thon Fundraiser
- ANHS Pep Squad Webmaster