

AIDAN FAY

📍 PALO ALTO, CA, UNITED STATES 📞 (858) 999-4899

◦ DETAILS ◦

www.aidanfay.com
Palo Alto, CA
United States
(858) 999-4899
aidanfay@stanford.edu

◦ LINKS ◦

[Project Portfolio](#)

[LinkedIn](#)

◦ SKILLS ◦

Siemens NX
Certified Solidworks Professional
PTC Creo
Fusion 360
MATLAB
Microsoft Excel
Hand Calculations
Simulink
EasyEDA
Eagle
Firmware Development
C
Arduino
MPLABX
Comsol Multiphysics
Ansys
Cantera
Manual Machining
CNC Machining
Silicone Molding and Mold Design
Sheet Metal Design
Design for Injection Molding
Instron Testing
Electrical Design
PCB Layout
Engineering Component Drawings
Engineering Assembly Drawings
Basic GD&T Principles
Teamcenter PDM
Windchill PLM
Flight Simulator Creation



EDUCATION

MS, Mechanical Engineering, Mechatronics, Stanford University
June 2024

BS, Mechanical Engineering, Design and Manufacturing, Stanford University
June 2022



EMPLOYMENT HISTORY

Course Assistant at Stanford University, Stanford
September 2022 — Present

- Assist and instruct students in design and manufacturing of mechanical parts for university labs, classes, and personal projects.
- Oversee machine shop operations and facilitated use of woodshop, foundry, welding room, and 3D printing room.
- Design and machine replacement parts for shop maintenance.
- Appointed as PRL liaison for Stanford Solar Car Project from September 2023, aiding in car creation and shop safety supervision.

Firefighter / Helicopter Crewmember at Forest Service, Quincy
June 2023 — September 2023

- Served as a seasonal helicopter crewmember and firefighter on a Bell 205A1++ helicopter.
- Managed cargo manifesting, and loading/unloading of the helicopter.
- Conducted briefings for pilots and passengers, and executed various helicopter-related duties.
- Facilitated communication with aircraft and coordinated with other resources.
- Initial attack wildfire suppression resource

Associate Engineer at SpaceX, Hawthorne
June 2022 — September 2022

- Member of the Starship thrust vector control actuator team at SpaceX.
- Developed and initiated production of various ground support equipment pieces.
- Led design, execution, and assistance in testing and production setup and collaborated with multiple teams across various locations.
- Created and presented Preliminary Design Reviews (PDRs).
- Performed tolerance stack-ups, hand stress calculations, Finite Element Analysis (FEA), and CAD designs.
- Developed both prototype-level and production-level drawing packages for internal production and external vendors.

Associate Design Engineer at Cor Medical Ventures, LLC, San Diego
October 2021 — June 2022

- Conceived, designed, prototyped, and developed technical solutions for medically-related challenges.
- Led design and collaborated with manufacturers to produce a flexible, skin-attached monitoring device.
- Played a key role in the mechanical and electrical design of a tubing based innovative maternal health device.
- Headed a project focused on developing a chest injury treatment device.
- Served as the primary electronics developer, transforming ideas into SMT prototypes and collaborating with potential manufacturers.
- Involved in battery evaluation and selection for various projects.
- Assisted in documentation, compliance, and testing of a joint implant system.
- After a year of full time transitioned to remote part time, focusing on electronics design and testing.

Flight Simulator Contractor at Natilus, San Diego
November 2021 — January 2022

- Advised on design and construction of a flight simulator for new aircraft development.

◦ SELECTED COURSEWORK ◦

Aircraft and Rocket Propulsion

Combustion Fundamentals

Gas-Turbine Design Analysis

Precision Engineering

Space Mechanics

Smart Product Design Fundamentals (Mechatronics)

Smart Product Design Applications (Mechatronics)

Introduction to Sensors

Computer Aided Product Realization (CNC Machining)

Engineering Optimization

Manufacturing Processes and Design

Design for Additive Manufacturing

Seasonal Wildland Firefighter - Emergency Medical Technician (EMT) at Dust Busters Plus LLC, Eugene

July 2019 — October 2020

- Served as the designated EMT on a wildland fire handcrew, primarily acting as a firefighter and assuming a medical role during emergencies.
- Returned to Oregon as a wildland firefighter after an internship with Boom Supersonic (Denver, CO) was canceled due to Covid-19.
- Duties included driving fire vehicles, operating chainsaws, assisting with chainsaw operations, and training new firefighters.
- Responsible for maintaining equipment when not on assignment.
- As a "Squad Boss" Trainee, led firefighters in Washington, Oregon, and California.

Mechanical Designer at University of Washington, Seattle

March 2020 — July 2020

- Served as the main designer for Covid-19 response projects under Professor Jeffery Lipton's DFAB, including surgical stopgap masks, N95 masks, non-rebreather masks, and face tent masks.
- Modified designs for multiple manufacturing techniques, such as 3D printing, vacuum forming, 5-axis CNC routing, injection molding, and silicone molding.
- Collaborated with teams and members from Weill Cornell Medicine, Carnegie Mellon, the VA, Ford, Gore, and HP.

Summer Engineering Researcher at Massachusetts Institute of Technology, Cambridge

June 2016 — September 2018

- First high school student ever to be hired by Dr. Daniela Rus to work at CSAIL.
- Developed a virtual reality "homunculus" system for controlling a Baxter robot, in collaboration with Professor Daniela Rus and Dr. Jeffrey Lipton.
- Co-authored the academic paper "Baxter's Homunculus: Virtual Reality Spaces for Teleoperation in Manufacturing" and "Helping Robots Learn: A Human-Robot Master-Apprentice Model Using Demonstrations via Virtual Reality Teleoperation."

Stanford University Department of Public Safety at Stanford University, Stanford

April 2018 — March 2020

- Provided community assistance, event security, and traffic control in cooperation with Stanford DPS (police and fire) in a part-time/casual role.

Engineering Researcher at Space and Naval Warfare Systems Command (SPAWAR), San Diego

June 2017 — July 2017

- Devised a novel system at SPAWAR for intercepting network traffic from an outdated training system, enabling its display in a new VR-capable simulator for Landing Signal Officer trainees. Developed the architecture for a new training system.

★ PATENTS AND PUBLICATIONS

Systems and methods for indicating an amount of a feeding fluid that is dispensed to an individual. US Patent US11478576B2

Systems And Methods For Distributed Training And Management Of AI-Powered Robots Using Teleoperation Via Virtual Spaces. US Patent US11285607B2

"Helping Robots Learn: A Human-Robot Master-Apprentice Model Using Demonstrations via Virtual Reality Teleoperation," IEEE 10.1109/ICRA40945.2020.9196754_

"Baxter's Homunculus: Virtual Reality Spaces for Teleoperation in Manufacturing," IEEE 10.1109/LRA.2017.2737046_

🍃 ENGINEERING TEAMS

PRL Liaison \ Shop Supervisor at Stanford Solar Car Project

2023 — Present

Pit Manager, Mazda Team Executor at Stanford Lemons Racing

2022 — Present

Vice President of Build at FRC Team 2485

2013 — 2018