

AIDAN SPIRA

aidanspira@gmail.com | (703) 579-7193 | linkedin.com/in/aidan-spira | Herndon, Virginia

EDUCATION

Texas A&M University, College Station, TX
Bachelor of Science in Mechanical Engineering
Minor in Engineering Entrepreneurship

May 2027
GPA: 3.96

ENGINEERING EXPERIENCE

Real-Time Transit Display

College Station, Texas

Project Lead

January 2026 – Present

- Programmed C++ control logic to convert live WMATA API data into real-time physical display states
- Planned SolidWorks-based 3D-printed mounts and enclosures for custom PCBs and LED displays
- Integrating firmware, electronics, and mechanical assemblies to create a physical display prototype

Polymer Products Consultancy Project (Aggies Create)

College Station, Texas

Team Lead

September 2025 – Present

- Leading an industry-partnered project automating gasket manufacturing to enable scalable production
- Identified automation opportunities through manufacturing workflow and constraint analysis
- Designed overall mechanical assemblies in SolidWorks to support design reviews and system integration
- Awarded First Place (“Best in Showcase”) among 40+ teams for feasibility and practical implementation

National Engineering School of Saint-Étienne

Saint-Étienne, France

Manufacturing Research Intern

May 2025 – July 2025

- Prototyped a digital twin of a 3D Printer system using custom sensors and mounts (Inventor, KiCad)
- Processed and analyzed digital twin data to increase throughput by 10% and reliability by 15%
- Collaborated with international engineers on system design, integration, and technical reviews

Lumicomm (Aggies Create)

College Station, Texas

Design Lead, Chief Entrepreneur

September 2024 – May 2025

- Engineered an optical communication system to securely identify drones from 50m in degraded environments
- Developed custom control and decoding algorithms to achieve 500 bps and 95% reliable data transfer at 50m
- Won first place at Aggie Pitch competition, selected by panel of industry and faculty judges

Aeronautical Systems Incorporated

Reston, Virginia

Mechanical Intern II

May 2024 – August 2024

- Developed engineering CAD models and technical drawings (SolidWorks), to enable replacement part production for E2-C, UH-60, and F-15 aircraft in regulated aerospace compliance environments
- Created custom tools which automated modeling, decreasing design time by 98%

Mechanical Intern I

June 2023 – August 2023

- Produced 50+ CAD models and drawings (SolidWorks), to maintain legacy aircraft systems and fleets
- Reviewed 300+ legacy technical drawings to preserve critical data and ensure government compliance

ORGANIZATIONS & ACTIVITIES

American Society of Mechanical Engineers (ASME)

College Station, Texas

Director of Professional Development

April 2025 – Present

- Led professional development workshops to 120+ underclassmen on resumes, internships, and interviews
- Coordinated and managed the Mechanical Engineering career fair for 600+ students and 24 companies

SKILLS

- **CAD & Design:** SolidWorks, Autodesk Inventor, GD&T, Tolerance Analysis, Design for Manufacturing
- **Manufacturing & Automation:** Additive Manufacturing, Machining (Milling, Lathe), Laser Cutting
- **Controls:** Embedded Systems, Robotics, Real-Time Systems, Microcontrollers, Sensors, Data Acquisition
- **Programming & Software:** C++ (Embedded), Python (Automation & Analysis), API Integration
- **Electronics:** PCB Design (KiCad), Soldering, Signal Conditioning, Power Management
- **Professional:** Technical Communication, Leadership, Collaboration, Entrepreneurship, Creativity