

Derek Nagel

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PROFILE

Mechanical Engineering student with concentration in Aerospace seeking a Summer 2026 internship opportunity. Experienced in electrical and mechanical design through an internship at Tesla and hands-on projects, showcasing innovative thinking and technical expertise. Licensed *pilot* for single and multi-engine aircraft. Division I volleyball athlete, recognized for leadership, and discipline in high-stakes environments.

EDUCATION

George Mason University

Fairfax, VA

B.S. Mechanical Engineering with Concentration in Aerospace

Expected Graduation- May 2027

Minor- Aviation Flight Training and Management

Completed

Relevant Coursework: Practicum in Engineering, Dynamics, Differential Equations, Statics, Thermodynamics, Solid Mechanics, Air Transportation System Engineering, Human Factors

Honors: Presidential Academic Scholarship

TECHNICAL SKILLS

MATLAB, Autodesk Inventor, SolidWorks, Microsoft Word, Excel, PowerPoint, Outlook, CRM, Data Visualization, Private Pilot (Single & Multi-Engine), EV Repair

PROFESSIONAL EXPERIENCE

Tesla - Summer Internship

May 2025- Aug 2025

- Supported **end-to-end electric vehicle delivery operations**, including late-stage vehicle staging, quality checks, and final inspection to ensure safety, performance, and delivery readiness.
- Explained **technical EV systems** (battery technology, drivetrain, charging, and software features) to customers, strengthening ability to translate complex engineering concepts into clear, user-focused communication.
- Shadowed operations at Tesla's **Elgin manufacturing facility**, observing **battery production, electric motor components, and assembly-line manufacturing processes**, gaining exposure to large-scale manufacturing workflows, quality control, and process sequencing.

Independent Study in Electrical and Mechanical Design

Aug 2022- May 2025

- *Tesla Model S Re-build*
Disassembled and rebuilt a heavily corroded battery and drivetrain on a 2014 Tesla Model S P85. Refurbished the entire pack, fixed multiple issues, treated with a custom corrosion treatment and reassembled the pack ensuring reliable performance in a 260,000-mile car.
- *Plane Pointer*
Designed and built a 2-axis automated aircraft tracking system that physically points toward live aircraft using ADS-B flight data, while displaying real-time flight information including identification, position, altitude, and speed.
- *3D LED Display System*
Created a dynamic 3D light display system using custom circuits and optical principles, demonstrating innovation in embedded systems and display technologies.

EXTRACURRICULAR

Division I Athlete, Volleyball

- Demonstrates strong teamwork and discipline through participation in a highly competitive sports environment.

President of FCA, George Mason University

- Leader of a Christian athlete initiative, uniting student-athletes in service projects and outreach to promote mental health awareness and balanced relationships with sport.