JOSIAH NEWILL

Aerospace Engineering Student | U.S. Citizen
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EDUCATION

Iowa State University | B.S. Aerospace Engineering | Expected May 2029
Engineering interests: aircraft systems, airframe design, unmanned aircraft, testing, and research.

ENGINEERING PROJECTS

Fixed-Wing RC Aircraft — Construction, Flight Testing & Troubleshooting | Personal Project

- Constructed a 26.5-inch-span foamboard RC aircraft from an existing design; integrated a brushless motor, electronic speed controller, receiver, two servos, and 4S LiPo power system.
- Conducted multiple flight trials; investigated unstable launches, stall behavior, and balance issues following unsuccessful flights.
- Repositioned battery mass, refined control response, and modified airframe details; achieved more stable, repeatable flight after iterative adjustments.
- Developed practical experience in center-of-gravity checks, component packaging, hands-on repairs, and documenting lessons from flight testing.

FPV Drone Assembly & Electronics | Personal Project

- Built and worked on first-person-view drone systems, gaining hands-on familiarity with airframe assembly, electronics integration, and troubleshooting.
- Applied practical problem-solving to component installation, system setup, and maintenance of small unmanned aircraft.

Project AURORA — Local-First AI Assistant | Personal Software Project

- Developing a modular personal AI assistant in Python with a FastAPI backend, REST endpoints, and local language-model integration through Ollama.
- Use Git and GitHub for version control; build and test backend services with a focus on local execution, extensibility, and maintainable architecture.

TECHNICAL SKILLS

Aircraft & UAV: RC aircraft operation, flight testing, airframe assembly, propulsion and control-electronics integration

Design & analysis: SolidWorks, Onshape, XFLR5

Programming & productivity: Python (developing proficiency), Microsoft Office, technical documentation

EXPERIENCE & LEADERSHIP

Lead Sales Associate | Dollar General | 2022–2025

- Supported daily store operations, customer service, financial transactions, and merchandise organization while maintaining accuracy under time pressure.
- Trained newer employees and helped coordinate responsibilities in a customer-facing team environment.

Camp Counselor | Camp Joy | Summer 2026

- Supervised and instructed youth groups, led activities, and supported kitchen operations; adapted communication to different ages and situations.

FFA Leadership | Reporter, Treasurer & Academic Advisor | 2020–2025

- Held multiple leadership positions involving communication, organization, financial responsibilities, and event coordination.
- Helped coach approximately 15 career development event teams, supporting preparation and collaborative problem-solving.

ADDITIONAL QUALIFICATIONS

FAA Part 107 Remote Pilot Certificate — Current