Alen Seferovic

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Education

Purdue University – B.S. Aeronautical and Astronautical Engineering May 2026
GPA: 3.95/4.00

Projects

Firefighting RC Aircraft May 2025 – Aug 2025

- Designed and built a low-cost aircraft that achieved stable, repeatable flight while carrying thermal and environmental payload for wildfire monitoring
- Integrated Raspberry-Pi based sensor system collecting continuous atmospheric and infrared imaging data with real-time visualization during flight operation
- Optimized the design using Siemens NX mass modeling, beam deflection analysis, and iterative flight testing to produce a lightweight, rigid airframe

Rocket Fin Performance Analysis Nov 2024 – Dec 2024

- Designed three rocket models with varying fin geometries to assess low-speed aerodynamic performance
- Conducted experimental testing with a team in a subsonic wind tunnel using load cells to collect data
- Collaborated to present experimental results, data analysis, and design implications in a technical report

Conceptual Aircraft Design Jan 2024 – May 2024

- Worked in a multidisciplinary team to design an aircraft, integrating theoretical knowledge of airfoils, thrust and range parameters, and weight fraction calculations into a mission-oriented design
- Utilized MATLAB to perform iterative aircraft sizing and performance analysis to achieve a converged conceptual design
- Presented a comprehensive technical report detailing the design process, performance metrics, and models

Experience

Teaching Assistant, Purdue University – West Lafayette, IN Jan 2025 – Present

- Hosted weekly office hours to provide individualized support on undergraduate aerospace engineering topics, clarifying concepts and guiding problem-solving across courses
- Collaborated with the teaching team to develop exam materials aligned with course objectives
- Responded to student questions on online discussion boards by providing clear and concise explanations of technical concepts

Intramural Official, Purdue University – West Lafayette, IN Aug 2024 – Nov 2024

- Effectively managed games and made quick, accurate decisions under pressure, ensuring fair play and adherence to rules for up to 18 players at a time
- Communicated rules clearly and resolved conflicts between players to maintain a positive and fair environment
- Maintained game records, tracked player behavior, and ensured compliance with league regulations

Relevant Coursework

Design of Aerospace Structures (AAE 454): Classical structural analysis, fatigue analysis, damage tolerance, failure criteria, finite element methods, FEA, composites
Structural Analysis (AAE 352): Wing and fuselage sections, free body diagrams, static analysis, loads and stress analysis, loads in skin-stringer sections, introduction to failure criteria

Skills

Practical: Wind Tunnel Testing, RC Aircraft Design, Prototype Testing, Experimental Setup, Soldering
Software: MATLAB, Siemens NX, ANSYS Workbench/FLUENT/Mechanical, Simulink, XFLR5, Python, Excel