David Sura

Mechanical Engineering Student

"Good ideas are always crazy until they're not."

About Me

Mechanical engineering candidate specializing in advanced structural design, systems integration, and Design for Manufacturing (DFM) principles. Proven track record of leveraging CAD and rigorous First Principles analysis to navigate complex mechanical constraints, optimize Bill of Materials (BOM), and accelerate rapid prototyping lifecycles for autonomous mechanical systems.

Technical Skills

- **Engineering & Design:** SolidWorks, AutoCAD, Arduino IDE, MATLAB.
- **Manufacturing & Methodologies:** Design for Manufacturability (DFM), Geometric Dimensioning and Tolerancing (GD&T), Rapid Prototyping, Bill of Materials (BOM) Management, First Principles Analysis.
- **Programming Languages:** Java, C/C++ (Arduino).
- **Languages**: English, Polish

American Society of Mechanical Engineers (ASME) | Member | Present

Contact

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Portfolio

- davidsura.com

Connect with me on LinkedIn!!! Let's pave the future together!!!

Engineering Projects & Professional Experience

Autonomous Payload Retrieval & Delivery Drone | Mechanical Designer | UIC | Fall 2025 – Present

- Engineered a custom, lightweight autonomous drone frame utilizing SolidWorks, applying structural analysis to ensure strict compliance with C-UASC weight and volumetric carry-on constraints.
- Executed comprehensive thrust-to-weight ratio analyses on diverse propulsion systems, optimizing the selection of brushless DC motors and lithium-polymer batteries to maximize payload capacity and extend operational flight time.
- Architected and managed a comprehensive Bill of Materials (BOM), coordinating precise component sourcing and tracking inventory lifecycle to streamline the physical manufacturing phase.
- Spearheaded cross-functional integration with electrical and software engineering teams, designing precision mechanical housings strictly tailored to accommodate complex sensor arrays and autonomous computing hardware.

Handshake AI Project Trainer | AI Trainer & Prompt Engineer | Remote | Oct 2025 – Present

- Collaborated asynchronously with leading artificial intelligence laboratories to evaluate and optimize Large Language Model (LLM) outputs, ensuring high-fidelity reasoning and logic across specialized STEM domains.
- Engineered domain-specific prompts and executed rigorous quality assurance protocols on massive datasets, directly accelerating the algorithmic accuracy, technical problem-solving capabilities, and performance of advanced machine learning models.

Education

University of Illinois at Chicago (UIC) | Chicago, IL
Bachelor of Science in Mechanical Engineering | Expected May 2028
GPA: 4.0 / 4.0
Relevant Coursework: Thermodynamics, Strength & Materials, Statics, Dynamics, Structural Analysis, Engineering CAD Design.