NAVIN BHATTARAI

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EDUCATION

Washington University in St. Louis, MO   GPA: 4.0/4.0   Aug 2025 - Present
- Bachelor of Science, **Mechanical Engineering**   Expected Graduation Dec 2026
- Honors: *Lee Hunter Scholarship*
- Relevant Coursework: Design of Thermal Systems, Heat Transfer, Fluid Mechanics, Control Systems, Solid Mechanics, Thermodynamics, Materials Science, Machine Elements, Manufacturing Processes, CAD

Truman State University, Kirksville, MO   GPA: 4.0/4.0   Aug 2022 - May 2025
- Bachelor of Arts, **Physics**   Degree Conferral May 2026
- Honors: *Sigma Pi Sigma, International President's Honorary Scholarship, 7+ Merit-Based Scholarships*
- Relevant Coursework: Modern Physics w/lab, Vibrations and Waves, Classical Mechanics, Advanced Physics Lab, Mathematical Methods in Physics, ODEs, General Chemistry

<u>**Certifications**</u>: Certified SOLIDWORKS Associate (2025), Advanced AutoCAD (2D/3D), OnShape Parametric CAD

SKILLS

Design & Manufacturing: SOLIDWORKS (DFM/DFA), Finite Element Analysis(FEA), OpenFoam, ParaView, On-Shape, AutoCAD, Machining, 3D Printing (FDM), Soldering

Programming & Analysis: Python, C++, MATLAB, LaTeX, R, Mathematica

EXPERIENCE

Design-Build-Fly, Structures Sub-Team | *Structures Engineer*   Aug 2025 – Present
Washington University in St. Louis, MO
- Design and model aircraft structural components and sub-assemblies using SOLIDWORKS
- Optimize structures to ensure CAD models are manufacturing-ready, simplifying fabrication and assembly
- Collaborate with aero & propulsion sub-team to ensure structural integrity meets performance specs

McKelvey School of Engineering | *Undergraduate Course Assistant*   Aug 2025 – Present
Washington University in St. Louis, MO
- Support 150+ students through weekly office hours and help sessions in Statics and Mechanics of Materials & Solid Mechanics, strengthening core structural analysis skills
- Provide constructive feedback, helping students improve problem-solving approaches

Dye-Sensitized Solar Cells (DSSCs) | *Research Associate*   Feb 2024 – Aug 2025
Truman State University, Kirksville, MO
- Fabricated and tested 30+ solar cell prototype assemblies; conducted performance benchmarking
- Developed a repeatable assembly process improving results and consistency across multiple prototypes
- Presented experimental findings at 2025 APS Prairie demonstrating natural dyes as eco-friendly alternatives

Student Union and Involvement Services | *Building Operations Manager*   Aug 2022 – Aug 2025
Truman State University, Kirksville, MO
- Coordinated 100+ events for 45+ organizations, handling equipment setup, security, and emergency response
- Trained and supervised 6+ assistants while enforcing safety protocols and operational standards

PROJECTS

Mechanical Pencil Assembly & Mechanism Design | *SOLIDWORKS, Technical Drawing, DFM*
- Modeled a 10-part assembly including internal spring-loaded lead advancement mechanisms
- Generated a professional documentation package: Exploded views, cross-sections, and Bill of Materials(BOM)

SnackUp: DFM/A-Optimized 3D Prototyping | *SOLIDWORKS, DFM, 3D Printing*
- Designed a modular storage system specifically optimized for injection molding using draft angles and constant wall thicknesses
- Validated snap-fit clip geometry through tolerance stack-up analysis and functional 3D printed prototypes