Tyler Jones

University of Wisconsin-Madison
B.S. Applied Mathematics, Engineering, and Physics (AMEP)

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EDUCATION

- **Milwaukee School of Engineering** *September 2020 – May 2021*
  Studied Mechanical Engineering CGPA: 3.500
- **University of Wisconsin–Madison** *September 2021 – August 2025*
  B.S. Applied Mathematics, Engineering, and Physics (AMEP) CGPA: 3.101

RESEARCH

- **Madison Experimental Mathematics Research Lab**

Prescription Stimulants SEIR Model Spring 2023

  – Developed a compartmental epidemiological model (SEIR) to simulate and analyze the spread of stimulant use among college students.
  – Constructed and numerically solved a system of ordinary differential equations using Monte Carlo simulations in MATLAB.
  – Conducted stability and sensitivity analyses to validate the model, then policies for prevention were proposed to aid fellow students/faculty.

EXPERIENCE

- **Designer** *August 2025 – Present*

Mechanical Design (CAD), Airflow Analysis (CFD) IVI Inc., Greenville, WI

  – Assist in the design of industrial ventilation and dust collection systems (hoods, duct routing, fan selection) and produce models/drawings in SOLIDWORKS.
  – Initiated an open-source CFD workflow to augment early-stage analysis: export CAD from SOLIDWORKS, mesh in SALOME/Helyx-OS, solve in OpenFOAM (RAS k-ω SST), and post-process in ParaView.

- **Engineering Intern** *Summer 2021, Summer 2024, Winter 2024*

Mechanical Design (CAD), Structural Analysis (FEA), Sheet Metal Fabrication Tweet/Garot Mechanical Inc., De Pere, WI

  – Custom equipment design for manufacturing integrating tube lasers, flat lasers, press breaks, and welding.
  – Assisted in designing conveyors, platforms, and hydraulic lifts following FDA and USDA standards for food and beverage plants:
    * Nestlé, Tyson Foods, Conagra Foods, Great Lakes Cheese, Seneca Foods, and Sargento Foods.
  – Initiated a preliminary FEA process using NASTRAN to evaluate structural assemblies before external approval.
  – Integrated digital work orders and optimized manufacturing workflows in SAP.

- **Engineering Intern** *June 2023 – August 2023*

Mechanical Design (CAD), Lean Manufacturing, Quality Control, OEM Cadence Inc., Sturgeon Bay, WI

  – Aided the engineering team with plastic injection molding and metal stamping for medical and automotive components (e.g., torque wrenches, scalpels, heat exchangers, etc).
  – Designed inspection fixtures in SOLIDWORKS to support prototype production of an ocular injection device.
  – Helped optimize automation for a fingertip pulse oximeter and aided in the design of its passivation chamber.
  – Optimized a manufacturing cell for a medical torque wrench, increasing work order efficiency from 76.77% to 129.69% and production quality from 89.4% to 98.48%.

TECHNICAL SKILLS AND INTERESTS

Programming: Python, MATLAB (proficient); C++, Java (working knowledge)
Engineering Tools: SOLIDWORKS, Inventor (+NASTRAN), ANSYS Fluent, AutoCAD, OpenFOAM, SALOME/Helyx-OS
Manufacturing: Design for Manufacturing, CNC machining, press-brake forming, G-code
Interests: CFD, FEA, Mathematical & Numerical Modeling/Simulation, Data Analysis

PORTFOLIO

These ongoing projects explore the interconnectedness of my education and professional experience in applied mathematics, engineering, and physics to support my continuous improvement goals – ultimately expanding my capabilities as an engineer.

https://tylerjonesworkspace.com/