David Austin

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EDUCATION

Drexel University | Grad. 2023
M.S. in Mechanical Engineering
B.S. in Mechanical Engineering
3.91 GPA
Pennoni Honors College
Pi Tau Sigma Honors Society
Executive Board | Drexel ASME

CERTIFICATIONS

Engineer-In-Training | NCEES

PATENTS

Non-Invasive Measurement & Calculation System
U.S. Patent 12306048 | 2025

CORE SKILLS

Heat Transfer Analysis
Fluid & Piping Systems
Component Design
GD&T Application
Structural/Stress Analysis
Experimental Test Design

SOFTWARE

CAD: SolidWorks, Fusion 360, AutoCAD, Creo, Inventor

Analysis: Ansys Mechanical, Fluent, MathCAD

Productivity: MS Word, Jira, Git, Linux Systems, LaTeX

Coding: Python (primary), VBA, R, MATLAB, Jupyter

WORK EXPERIENCE

Holtec International — Camden, NJ
Mechanical Design Engineer — *July 2023 – Present*

- Oversaw development of 150+ drawing packages for equipment used in processing, transport, and storage of spent nuclear fuel
- Directed multi-disciplinary teams including thermal, structural, and manufacturing engineers to analyze and improve design proposals
- Served as technical lead for forced-convection drying systems, sealing/leak-testing equipment, custom high-temperature valves, and other fluid-handling systems
- Performed thermal-hydraulic modeling and directed programs for functional testing to qualify new equipment designs

Omega Engineering — Bridgeport, NJ
Mechanical Design Engineer — *November 2022 – June 2023*, *March 2021 – June 2022*

- Designed and facilitated commercial launch of a patented non-invasive temperature meter for industrial piping systems
- Created and used prototypes and test fixtures for validation of new electro-mechanical designs and firmware for temperature meters
- Coordinated with product managers, technicians, software engineers, and material vendors to design new sensors and smart devices

Cornelis Networks — Chesterbrook, PA
Mechanical Engineering Co-op — *March – September 2022*

- Conducted thermal and mechanical testing of computer server cooling systems including fans, heat pipes, and heat sinks
- Wrote software packages to automate server hardware tests and improve CAD data workflow in Windchill

Theoretical & Applied Mechanics Group — Philadelphia, PA
Advanced Manufacturing Researcher — *April 2019 – March 2021*

- Utilized FEA process simulations and topology optimization to counteract heat-related warping of 3D-printed titanium parts
- Simulated and prototyped customized 3D-printed biomedical devices which intentionally introduced warping to reduce fabrication time

PUBLICATIONS

Parametric Analysis of the Design Point for a Centrifugal Nuclear Thermal Rocket Fuel Element | American Nuclear Society | 2023