

STRENGTHS

-  **Thermal Modeling**
Built models from heat transfer principles, then checked results against expected behavior. Faculty reviewers valued clear assumptions.
-  **Research Collaboration**
Worked closely with faculty researchers on planning and documentation. Shared questions early, which kept laboratory work moving.
-  **Technical Communication**
Turned simulation findings into focused presentations and reports. Graduate audiences could follow both methods and practical implications.
-  **Prototype Evaluation**
Recorded testing observations carefully during cooling studies. Those notes helped connect design choices with later research discussions.
-  **Engineering Analysis**
Compared CFD and thermal network results across design options. Peers often sought input on assumptions and tradeoffs.

SKILLS

Thermodynamics Heat Transfer

Fluid Dynamics

Power Electronics Cooling

Thermal Networks CFD Tools

FEA 3D CAD Liquid Cooling

Immersion Cooling

Heat Exchangers Thermal Testing

Prototype Development

Technical Presentations

Research Documentation

SUMMARY

Mechanical Engineering graduate student focused on advanced cooling technologies and thermal research. Academic and laboratory work covers thermodynamics, heat transfer, fluid dynamics, **thermal fluid modeling**, CFD, FEA, thermal networks, CAD modeling, **prototype development**, and experimental testing. Develops simulation studies for **power electronics cooling**, evaluates design alternatives, and connects analytical results with practical prototype observations. Works with faculty researchers and engineering peers on experimental planning, project documentation, technical presentations, and research reviews. Graduate coursework and applied projects include liquid cooling, heat exchangers, pumps, fans, heat sinks, immersion cooling concepts, and **thermal management materials**. Brings a thoughtful, hands on approach to research questions, clear communication during technical reviews, and strong interest in contributing useful analysis across industrial, automotive, truck, and aerospace cooling applications.

EDUCATION

Master of Science in Mechanical Engineering

University of Wisconsin Madison  GPA: 4.0  2027  Madison, WI

Coursework: Thermodynamics, Heat Transfer, Fluid Dynamics, Computational Fluid Dynamics, Thermal Management Materials

TECHNICAL SKILLS

- **Thermal Analysis:** Thermodynamics, Heat Transfer, Fluid Dynamics
- **CFD Software:** Icepak, Fluent, Ansys
- **Multiphysics Software:** Comsol, Ansys, Fluent
- **FEA Tools:** Ansys, Comsol, Icepak
- **CAD Software:** Creo, Inventor, SolidWorks
- **CAD Modeling:** SpaceClaim, Creo, SolidWorks
- **Cooling Systems:** Liquid Cooling, Immersion Cooling, Power Electronics Cooling
- **Thermal Components:** Heat Exchangers, Pumps, Fans
- **Thermal Hardware:** Heat Sinks, Thermal Management Materials, Cooling Prototypes
- **Research Methods:** Thermal Modeling, Simulation, Experimental Validation
- **Engineering Deliverables:** Technical Presentations, Project Reviews, Technical Documentation

EXPERIENCE

Thermal Research Engineering Graduate Assistant

University Research Lab  August 2025 - Present  Madison, WI

Supports graduate thermal research through modeling, **simulation**, **prototype development**, testing, documentation, and presentation work. Partners with faculty researchers on cooling concepts, experimental planning, and review preparation.

- Developed thermal models using **heat transfer** principles for laboratory cooling concept evaluations
- Analyzed **CFD** and thermal network results to compare design alternatives for prototype studies
- Created CAD models for laboratory prototypes using engineering design tools and documented revisions
- Conducted prototype testing and recorded observations for research reviews and experimental planning
- Prepared **technical presentations** explaining thermal analysis methods, assumptions, findings, and next steps
- Collaborated with faculty researchers on project documentation, test planning, and research discussions

Advanced Cooling Systems Researcher

Academic Research Project  January 2025 - July 2025  Remote

LANGUAGES

English	Native
Spanish	Intermediate

MY CAREER



- Thermal Research Engineering Graduate Assistant at University Research Lab (1.1 Years)
- Advanced Cooling Systems Researcher at Academic Research Project (6 Months)

Completed supervised graduate research on electronics cooling, simulation methods, material tradeoffs, prototype design, and technical communication. Connected thermodynamics coursework with practical evaluation of cooling system concepts.

- Investigated **liquid cooling** approaches for electronics thermal management coursework and research discussions
- Built **simulation** studies using engineering analysis methods and documented assumptions for review
- Validated modeling assumptions against expected thermal behavior during supervised research sessions
- Evaluated material and component tradeoffs for cooling solution prototype design exercises
- Applied **thermodynamics** concepts when developing and comparing advanced cooling configurations
- Presented project outcomes through reports and **technical presentations** for graduate engineering audiences

PROJECTS

Liquid Cooling Evaluation Study 📅 2025

Connected thermal management theory with practical electronics cooling questions through simulation, material comparison, and supervised technical review. Findings supported clearer prototype design decisions.

Thermal Prototype Modeling Study 📅 2025

Collaborated with graduate engineering peers on CAD based prototype concepts, thermal assumptions, and presentation materials. Shared findings in a clear format for technical discussion.

LEADERSHIP & AWARDS

- Graduate Research Presentation Recognition, 2026
- Engineering Graduate Scholarship, 2025
- Presented research findings in graduate engineering forums and exchanged practical feedback with peers

CERTIFICATIONS

- Ansys Learning Hub Thermal Analysis Training 📅 2026
- Graduate Thermal Analysis Training 📅 2026

PROFESSIONAL AFFILIATIONS

- Graduate Engineering Research Group Member, connecting with peers across thermal research topics
- Thermal Systems Study Group Coordinator, organizing focused discussions on cooling analysis methods

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST