

# Linh Wiggins

## Thermal Research Engineering Graduate Assistant

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### 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

### SKILLS

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|-----------------------------|--------------------|---------------------|---------------------------|
| • Thermodynamics            | • Thermal Networks | • Liquid Cooling    | • Prototype Development   |
| • Heat Transfer             | • CFD Tools        | • Immersion Cooling | • Technical Presentations |
| • Fluid Dynamics            | • FEA              | • Heat Exchangers   | • Research Documentation  |
| • Power Electronics Cooling | • 3D CAD           | • Thermal Testing   |                           |

### 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

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

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### 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

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

## CERTIFICATIONS

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

## PROFESSIONAL AFFILIATIONS

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

## LANGUAGES

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- English (Native)
- Spanish (Intermediate)

## ADDITIONAL INFORMATION

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

## REFERENCES

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AVAILABLE ON REQUEST