

Wade Blair

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SUMMARY

Thermal engineer with five years of experience developing **performance models** for advanced cooling, energy, and **data center infrastructure** systems. Builds and validates CFD and simulation models that assess thermal, fluid, and **electrical behavior** across **integrated mechanical systems**. Translates engineering requirements into analytical models, evaluates design alternatives, and improves model accuracy through comparison with test results. Applies heat transfer, fluid dynamics, numerical modeling, and simulation workflows during design reviews and validation activities. Partners with mechanical, software, and data science teams on predictive optimization approaches. Communicates technical findings through clear reports and presentations that support architecture decisions, efficiency improvements, and resilient system development.

EXPERIENCE

Thermal Systems Engineer June 2023 - Present
Blue Ridge Engineering *Chicago, IL*

Leads thermal analysis for infrastructure systems, supporting CFD studies, simulation workflows, validation reviews, and predictive optimization with mechanical and software partners. Converts system requirements into practical models and presents findings that guide architecture decisions.

- Developed thermal performance models for infrastructure systems using **CFD methods** and **simulation workflows**.
- Evaluated fluid and heat transfer behavior, supporting design decisions and **engineering validation** activities.
- Created simulation documentation and analysis reports for multidisciplinary engineering reviews.
- Improved **model accuracy** through validation against test results and engineering requirements.
- Partnered with mechanical and software teams on predictive optimization approaches.
- Presented **technical findings** supporting system architecture decisions and infrastructure **efficiency improvements**.

Mechanical Simulation Engineer July 2021 - May 2023
Lakeview Mechanical Solutions *Milwaukee, WI*

Built engineering simulations for thermal systems and integrated mechanical designs, supporting prototype reviews, design refinement, validation planning, and analysis documentation for senior engineers and design teams.

- Built engineering simulations for thermal systems and evaluated performance constraints.
- Applied **heat transfer** and **fluid dynamics** concepts when analyzing design alternatives.
- Supported prototype reviews through analytical modeling and **technical documentation**.
- Prepared simulation inputs, assumptions, and validation summaries for senior engineers.
- Collaborated with design teams to refine system requirements and **reference designs**.
- Maintained engineering models and analysis procedures for repeatable **simulation workflows**.

PROJECTS

Data Center Cooling Analysis 📅 2024

A cooling study examined thermal behavior across data center infrastructure. CFD results supported design comparison, model validation, and recommendations for improved efficiency and resilience.

Predictive Thermal Optimization 📅 2023

A predictive analysis effort connected simulation outputs with optimization methods. Findings helped engineering partners review system behavior and prioritize practical design improvements.

LEADERSHIP & AWARDS

- Engineering analysis recognition for clear simulation findings supporting multidisciplinary design reviews.
- Team contribution recognition for improving model validation practices and engineering documentation.
- Technical presentation recognition for translating complex thermal results into practical architecture guidance.

EDUCATION

Bachelor's Degree in Mechanical Engineering 2021
University of Wisconsin Milwaukee GPA: 3.5 *Milwaukee, WI*

Coursework: Thermodynamics, Heat Transfer, Fluid Mechanics, Numerical Methods

CERTIFICATIONS

- CFD Fundamentals Certificate 📅 2024
- Thermal Modeling and Simulation Certificate 📅 2024

TECHNICAL SKILLS

- **CFD Software:** CFD modeling, flow simulation, thermal simulation
- **Thermal Analysis:** Heat transfer, thermal performance, temperature analysis
- **Fluid Mechanics:** Fluid dynamics, flow behavior, pressure analysis
- **Simulation Methods:** Numerical modeling, performance modeling, system simulation
- **Validation Methods:** Model validation, test correlation, accuracy review
- **Data Science:** Predictive analytics, deep learning, optimization
- **Mechanical Systems:** Integrated mechanical systems, cooling systems, energy systems
- **Engineering Design:** Reference designs, design alternatives, system requirements
- **Data Center Engineering:** Data center cooling, infrastructure systems, resilience
- **Technical Documentation:** Simulation documentation, analysis reports, validation summaries
- **Engineering Collaboration:** Multidisciplinary reviews, mechanical teams, software teams

SKILLS

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|--------------------|------------------------|-----------------------|-----------------------------|
| • Thermal Modeling | • Simulation Software | • Numerical Modeling | • Mechanical Systems |
| • CFD Analysis | • Data Center Cooling | • System Requirements | • Performance Modeling |
| • Heat Transfer | • Predictive Analytics | • Design Review | • Engineering Communication |
| • Fluid Dynamics | • Model Validation | • Technical Reporting | |

PROFESSIONAL AFFILIATIONS

- Member, American Society of Mechanical Engineers, focused on thermal systems and engineering practice.
- Participant, Chicago engineering community, sharing simulation methods with mechanical design professionals.

LANGUAGES

- English (Native)
- Spanish (Intermediate)

ADDITIONAL INFORMATION

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

REFERENCES

AVAILABLE ON REQUEST