RYAN WANG

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Santa Clara, CA | Ph.D. Student in Mechanical Engineering, Santa Clara University

EDUCATION

Santa Clara University Santa Clara, CA
Ph.D. in Mechanical Engineering *Sep 2025 – Expected 2029*
- Research: Generative AI for Computational Design and Geometric Modeling | Mentor: Dr. Jun Wang

Washington University in St. Louis St. Louis, MO
M.S. in Imaging Science *Aug 2023 – May 2025*
- Research: Machine Learning methods for Computational Imaging | Mentor: Dr. Song Hu

Shenzhen University Shenzhen, China
B.S. in Computer and Information Science *Sep 2019 – Jun 2023*
- Research: Machine Learning subway fire detection system | Mentor: Dr. Zhu

TECHNICAL SKILLS

- Programming: Python, C++, MATLAB, SQL
- CAD/FEA: SolidWorks, ANSYS, Abaqus
- AI/ML: PyTorch, Vision Transformers, Generative Models
- Tools: Git, Simulink, Neo4j, Blender

WORK EXPERIENCE

Lenovo (Desktop Computing Development Lab)
Research Intern *May 2024 – Aug 2024*
- Built large scale Lenovo computer components knowledge graphs using MySQL and Neo4j.
- Combined knowledge graphs with LLM (OpenAI APIs) to build an AI chatbot for enterprise internal use.
- Received the VP Instant Award for AI innovation.

WashU School of Medicine
Research Assistant *Nov 2023 – Feb 2024*
- Developed ray-tracing software for brain tumor ultrasound simulation using Matlab Simulink package.
- Modeled light-tissue interaction in 3D geometry for preoperative planning.

SELECTED PROJECTS

AI-Driven Design of Mechanical Metamaterials | SCU | Sep 2025 – Present
- Applying generative AI to optimize cellular metamaterial geometries under multi-physics constraints.
- Using topology optimization and machine learning-based surrogate modeling.

Retinal OCT Alzheimer's Detection | WashU | Feb 2024 – May 2025
- Built a vision transformer-based model for OCTA datasets in order to enhance Alzheimer's early detection.
- Achieved **88%** F1-score in early Alzheimer's prediction compared to CNN-GNN based method (**86%**).

SELECTED PUBLICATIONS

Wang, Y., & Zhao, J. (2024). Research on Jing Dong's Self-built Logistics Based on Technology Acceptance Model. *arXiv preprint arXiv:2407.15011*.

AWARDS

VP Instant Award for AI Innovation
Lenovo Research · August 2024
Recognized for developing an LLM-powered service chatbot combining knowledge graphs that reduced issue-resolution time by **35%**.