



Ph.D. Position Opening | Fall 2026

Description

The Ambient Intelligence Lab (Aml Lab) in the School of Civil & Environmental Engineering and Construction Management at the Klesse College of Engineering and Integrated Design (KCEID), The University of Texas at San Antonio (UT San Antonio), invites applications for **One Fully Funded Ph.D. Position, starting Fall 2026**. Funding includes a tuition waiver and a competitive stipend. Aml Lab studies how Artificial Intelligence (AI Agents/LLM/VLM), Embedded Sensing, Simulation and Mixed Reality (VR/AR/MR) work together to create human-centric ambient intelligence for smart built environments. Students will collaborate across disciplines within and beyond the department to deliver academic research and applicable systems.

Research Topics

- [Human–Building Interaction] Proactive and intuitive interfaces that facilitate occupant interactions.
- [AI Agents] AI agent systems that perceive, plan, and act on building data (IoT, energy management).
- [Embedded Sensing] Physiological and environmental sensing for human state inference.
- [Mixed Reality (VR/AR/MR)] Immersive tools for design, training, and operations in built environments.
- [Digital Twins] Data models that synchronize virtual/physical assets for monitoring and control.
- [World Model] Vision language model, sensor simulation, and world model for infrastructure.

Preferred Qualifications

- Master's degree in Civil Engineering, Construction Management, Architectural Engineering, Mechanical Engineering, Electrical Engineering, Computers Science, or a closely related field.
- Demonstrated programming experience (e.g., Python, R, MATLAB, or comparable languages)
- Prior research experience and/or publications.
- Experience with Machine Learning/Deep Learning/LLMs (e.g., PyTorch/TensorFlow, Prompt Engineering).
- Background in BIM, building automation systems, IoT, sensors, time-series data analysis.
- Exposure to VR/AR/MR workflows (Unity/Unreal Engine) or digital twin platforms.

About Advisor

Dr. Tianzhi He joined UT San Antonio as an Assistant Professor in 2025. As the director of the Aml Lab, his research advances Ambient Intelligence (Aml) for smart built environments by integrating data-driven reasoning, physiological sensing, and intelligent interfaces. Dr. He received his Ph.D. and M.S. in Civil Engineering from Virginia Tech, and a B.S. in Construction Management from Tongji University (China). To learn more, please visit <https://tianzhihe.github.io/>

About UT San Antonio

The University of Texas at San Antonio (UT San Antonio) is a Tier One research university and the third-largest public research institution in Texas, nationally recognized for its commitment to student success, research excellence, and community impact. With its cutting-edge facilities, thriving innovation ecosystem, and location in one of the fastest-growing cities in the U.S., UT San Antonio provides Ph.D. students with unparalleled opportunities to push boundaries, translate ideas into impact, and shape the future of engineering and society. For more information, please visit <https://www.utsa.edu/>

How to Apply

Email Dr. Tianzhi He (tianzhi.he@utsa.edu) with the subject line: **“Aml Lab PhD Application – Your Full Name”**. Include the following information: (1) CV/Resume, (2) Cover letter describing research interests and relevant experience. **Shortlisted applicants will be contacted for further inquiries and potential interviews.** Applicants must also submit a formal application to UT San Antonio Graduate Application. For more information, please visit <https://future.utsa.edu/programs/doctoral/civil-engineering/>