

Tenure-Track Assistant Professor in the ScAI Fall 2025

The University of Tennessee – Knoxville (UTK): Knoxville Academic Units: Tickle College of Engineering: Department of Industrial and Systems Engineering

Location

Knoxville, Tennessee

Open Date

September 01, 2024

Description

The Industrial and Systems Engineering (ISE) Department (<https://ise.utk.edu>) at UTK is seeking exceptional candidates to fill one tenure-track position at the Assistant Professor level starting August 1, 2025. This search is part of a cluster hire to add faculty across multiple departments with expertise in Science-informed Artificial Intelligence (ScAI). The successful candidate may have a 25% joint appointment with the Mathematics department. The ScAI cluster is part of the “*It takes a Volunteer*” cluster hiring initiative at the University of Tennessee, Knoxville (<https://provost.utk.edu/it-takes-a-volunteer-2023-2025-cluster-hiring-initiative/>). The ScAI Cluster will be a team of excellence in the science, mathematics, and optimization of AI for advancing scientific and engineering applications with a direct impact on additive manufacturing and hypersonic defense systems. As part of this institutional priority initiative, new hires will join a dynamic core group of scientific collaborators with complementary experience and a shared interest in building a national reputation for excellence and innovation in ScAI. In addition, members of the cluster are expected to work together to grow the University’s reputation in ScAI through shared grant proposals, publications, and innovative new curricular programming.

The new hires will also support and contribute to the AI TENNessee Initiative. The AI TENNessee Initiative is a new transdisciplinary research and education initiative focused on the State of Tennessee’s unique AI strengths and opportunities for innovation. Led by the University of Tennessee, Knoxville, this initiative is engaging with academic, industrial, and community partners across Tennessee to leverage the benefits of AI across all disciplines and economic sectors in areas such as AI for science, smart manufacturing, climate-smart agriculture and forestry, precision health and environment, and future mobility. Our goal is to improve lives through AI research and education. The mission of the AI Tennessee initiative is to: 1) advance cutting-edge fundamental and transdisciplinary AI research and creative activity across all disciplines to address important challenges; 2) expand the number of Tennessee students developing skills and core competencies in AI across many disciplines to prepare them for AI-enabled jobs of today and the future; and 3) partner with industry and institutions statewide to position Tennessee as a national and global leader in the data-intensive knowledge economy.

UTK is the flagship campus of the UT system, land-grant university, and a public Carnegie Research 1 institution. As an 1862 land-grant university and as Volunteers, serving our state and nation is key to our mission. UT enrolls approximately 36,000 students at its Knoxville campus. Under a united leadership across the UT system, university campuses, and colleges, UTK is undergoing transformational changes focused on solving some of the most audacious, pressing problems our country and world face today.

The Tickle College of Engineering is undergoing an unprecedented period of growth and success and anticipates adding over 30 new faculty over the next three years as part of ambitious cluster hiring campaigns led by Chancellor Donde Plowman and Dean Matthew Mench. For two years, the college has set records in research expenditures, enrollment, incoming student GPA, diversity, and intellectual property development. New facilities include the state-of-the-art Zeanah Engineering Complex, the University of Tennessee Manufacturing and Design Enterprise (TN-MADE) facility, and the Innovation South building now under construction that will house UT’s Fibers and Composites Manufacturing Facility (FCMF). TCE currently has 185 T/TT and 67 NTT faculty in its seven academic departments and offers 12 undergraduate, 16 MS, and 15 PhD degree programs. Affiliated with TCE and located in Tullahoma, Tennessee, the UT Space Institute is an aerospace and defense research hub. The college is also home to eight research centers and three interdisciplinary institutes. With approximately 3,800 undergraduate and 1,150

graduate students, the college sits 29th among public universities in the most recent U.S. News and World Report graduate rankings. Faculty in the college have won 21 early career awards (NSF, DoE, DARPA, AFOSR, and ARO) since 2016. In FY22, the college had NSF HERD research expenditures of \$109 million.

The ISE Department offers BS, MS, and Ph.D. degrees in Industrial Engineering and MS and Doctor of Engineering degrees in Engineering Management. The Department currently has 13 tenured or tenure-track faculty members and an enrollment of more than 500 students, including 253 UG, 169 MS, 71 Ph.D., and 31 Doctor of Engineering Students. The Department will increase its faculty size to 25 by 2025, including 16 tenured or tenure-track faculty members and nine full-time teaching or research faculty members. ISE actively interacts with on-campus centers, including the Reliability and Maintainability Center, the Center for Transportation Research, the state's Institute for Public Service, the Institute for a Secure and Sustainable Environment, and so on. Departmental strengths include optimization, data analytics, machine learning, quantum computing, reliability and maintainability, and operational excellence and their applications in manufacturing, logistics and transportation, energy systems, sustainability, and healthcare systems. The annual externally funded research expenditure is more than \$5.1M. The department was ranked 26th among all public institutions in the 2025 U.S. News Best Graduate School Ranking. For additional information about the Department, please visit <https://ise.utk.edu/>.

Qualifications

This hire at the assistant professor level is expected to propose, advocate, shape, and implement the roadmap to establish a strong footprint and nationwide presence in the crosscutting field of Industrial Engineering and AI. An earned doctorate in Industrial Engineering, Systems Engineering, Operations Research, Computer Science, Mathematics, or a closely related field is required, and the PhD must be in hand by the time of appointment. The successful applicants will have strong problem-solving and communication skills and the ability to work in an interdisciplinary environment. A strong commitment to teaching excellence and publications in leading journals are expected. Preferred qualifications are teaching experience, industrial experience, and demonstrated ability to attract external funding.

Application Instructions

Review of applications will begin on September 1, 2024, and will continue until the position is filled. Individuals interested in applying for this position should submit electronically at <https://apply.interfolio.com/153456>.

Applications should include

1. Cover Letter articulating the applicant's interest in and qualifications for this position,
2. Curriculum vitae,
3. Research statement outlining previous and future directions,
4. Teaching and mentoring statement, and
5. Names of three to five references.

For any additional questions, please contact ISE Search Committee Contact: Dr. Xueping Li , ISE, University of Tennessee, Knoxville, xli27@utk.edu.

Additional Information

The City of Knoxville is a hidden gem with an elegant and walkable downtown, rich and varied nightlife, intercultural events, vibrant neighborhoods, eclectic restaurants, and amazing access to outdoor activities of all kinds as well as exciting cultural events throughout the year. From Knoxville's TYS Airport, Knoxville has nonstop flights to 22 major airports in the US, including direct flights to cities such as DC, NYC, Atlanta, Chicago, Denver, and Miami, and the surrounding counties have a population of more than 850,000 people. UTK is in Knoxville TN, within an easy driving distance to Nashville, Atlanta, Asheville, and the Great Smoky Mountains National Park.

In addition, the City of Knoxville and the surrounding areas boast great K-12 schools and one of the most highly educated populations in the entire US. From 2007 to 2017, Tennessee's overall economy growth ranked #7 among

all 50 US states. In 2019, US News ranked the State of Tennessee in the US as the #1 in fiscal stability, #12 in economy, and #13 in infrastructure.

All qualified applicants will receive equal consideration for employment and admission without regard to race, color, national origin, religion, sex, pregnancy, marital status, sexual orientation, gender identity, age, physical or mental disability, genetic information, veteran status, and parental status, or any other characteristic protected by federal or state law. In accordance with the requirements of Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990, the University of Tennessee affirmatively states that it does not discriminate on the basis of race, sex, or disability in its education programs and activities, and this policy extends to employment by the university. Requests for accommodation of a disability should be directed to the ADA Coordinator at the Office of Equity and Diversity, 1840 Melrose Avenue, Knoxville, TN 37996-3560, by email to oed@utk.edu, or by phone at 865-974-2498. Inquiries and charges of violation of Title VI (race, color, and national origin), Title IX (sex), Section 504 (disability), the ADA (disability), the Age Discrimination in Employment Act (age), sexual orientation, or veteran status should be directed to the Office of Investigation and Resolution, 216 Business Incubator Building – 2450 E. J. Chapman Drive, by email to investigations@utk.edu, or by phone at 865-974-0717.