

Four Faculty Positions in Data Science, AI, Interactive Decision Making, Human Computer Teaming, Visual and Data Analytics, and AI/ML for Weather at the University of Oklahoma, Norman Campus

Positions Available: As part of a multiyear effort to grow world-class data science and data-enabled research across The University of Oklahoma (OU), the Gallogly College of Engineering (GCoE) in partnership with the College of Atmospheric and Geographic Sciences (CAGS) and the College of Arts and Sciences (CAS), welcomes applications for a cluster of four (4) faculty positions from candidates whose experiences and interests have prepared them to be an integral contributor to the advancement of our inclusive and diverse communities engaged in scientific discovery, developing talent, solving global challenges, and serving our society. In this first year, we are focusing on data science foundational and enabling technologies. In subsequent years, we'll be hiring additional data science and data-enabled research faculty.

The University, as part of its *Lead On, University* strategic plan has committed to creating world-class capabilities in data science, artificial intelligence (AI), machine learning (ML), and data-enabled research. In July 2020, the University established the Data Institute for Societal Challenges (DISC) to grow convergent data-enabled research to solve global challenges. DISC currently has over 50 faculty members across OU campuses, seven communities of practice, seed funding programs, and an extended network of approximately 250 data scientists and data-enabled researchers across many disciplines (<https://www.ou.edu/disc>).

Four positions:

- 1) **Professor or Associate Professor in Human-Computer Teaming and Interactive Decision Making:** Humans and computers have complementary knowledge and skillsets. To solve challenging problems, we need to team these expertise together for effectiveness, reliability, efficiency, and adoption of many data-driven solutions. This area is cross-disciplinary and we seek a senior faculty member with expertise in one or more of human-computer teaming, visualization, visual analytics, human-machine interaction, decision theory, HCI, human factors and industrial engineering, or cognitive psychology. This faculty member will be a vital core team member in data science and data-driven decision making with a home department in ECE and possible joint appoint in ISE, Computer Science, Psychology, and/or Political Science. Candidates are requested to submit their applications at <https://apply.interfolio.com/97229>. Inquires can be addressed to Professor David Ebert, chair of the search committee at ebert@ou.edu.

- 2) **Assistant Professor in AI Architectures:** We seek to recruit a transdisciplinary faculty member with expertise in one or more of the following areas: scalable, high-performance software and hardware architectures for AI and advanced analytics,

advanced and domain-tailored data science, AI (trustable, science-based, and human-guided), and human-computer teaming. Specific areas of interest include probabilistic, neuromorphic, and novel architectures, software pipelines and operating system architectures to support high-performance analytics, and enable real-time trustable AI and decision-making. Since traditional computing architectures are still based on solving problems from the 20th century, new computing hardware and software architectures are needed to optimize computing for AI and machine learning and many new approaches to science and engineering. This faculty member will grow and complement work in computer engineering, computer science and the new OU quantum center (CQRT) with a home department in ECE and possible joint appointments where appropriate. Candidates are requested to submit their applications at <https://apply.interfolio.com/97161>. Inquires can be addressed to Professor David Ebert, chair of the search committee at ebert@ou.edu.

- 3) Assistant Professor in Data Analytics: AI, & ML for High-Impact Weather Applications:** A tenure-track position is available in the broad area of using artificial intelligence (AI) and machine learning (ML) techniques for improving the prediction and understanding of weather and climate. Examples of the expertise sought include the use of AI/ML through both postprocessing and improvements to models themselves, through bridging the gap between weather and climate time scales to advance subseasonal to seasonal (S2S) predictions. This faculty position will have its home department in the School of Meteorology and a possible joint appointment in ECE. Candidates are requested to submit their applications at <https://apply.interfolio.com/96137>. Inquires can be addressed to Drs. Steven Cavallo (cavallo@ou.edu), David Ebert, ebert@ou.edu, or Greg McFarquhar, mcfarq@ou.edu, chairs of the search committee.
- 4) Charles R. Jones Endowed Chair in Data Science –** We are seeking applicants who can bring a well-established research program in DSA and the leadership to build upon the School's current strengths. Applicants must be established or emerging leaders with demonstrated scholarship in the fields of analytics, data science, and/or artificial intelligence. Applicants with proven expertise in both application and theory will be considered. We seek a colleague who will collaborate with current faculty in ISE and faculty across the university to build a strong collaborative research program. We encourage candidates who have interest in providing strong mentorship to junior faculty members and who will build a thriving research laboratory of graduate students and post-doctoral scholars. We seek a passionate individual who will contribute to the strategic research focus areas of Health and Medical Systems, and/or Aerospace and Defense Manufacturing Systems within the School and the College. Candidates are requested to submit their applications at <https://apply.interfolio.com/82080>. Inquires can be addressed

to Professor Shivakumar Raman, chair of the search committee at raman@ou.edu.

The University of Oklahoma: OU is a Carnegie-R1 comprehensive public research university known for excellence in teaching, research, and community engagement, serving the educational, cultural, economic and health-care needs of the state, region, and nation from three campuses: Norman, Health Sciences Center in Oklahoma City and the Schusterman Center in Tulsa. OU enrolls over 30,000 students and has more than 2700 full-time faculty members in 21 colleges. In Fall 2021, approximately 25% of OU's freshmen were first-generation students, 38% of all students belonged to a historically underrepresented, underserved, and/or marginalized race/ethnicity and in Fall 2020 5% were international. The University of Oklahoma is committed to achieving a diverse, equitable, and inclusive university community by embracing each person's unique contributions, background, and perspectives. The University recognizes that fostering an inclusive environment for all, with particular attention to the needs of historically marginalized populations, is vital to the pursuit of excellence in all aspects of our institutional mission. This enhances the OU experience for all students, faculty and staff, and for the communities that we engage.

We acknowledge that the University of Oklahoma is on the traditional lands of the Caddo Nation and the Wichita & Affiliated Tribes. This land was also once part of the Muscogee and Seminole nations. It also served as a hunting ground, trade exchange point, and migration route for the Apache, Cheyenne, Comanche, Kiowa, and Osage nations. Today, over 40 federally recognized, state-recognized, or self-identified tribal nations dwell in what is now the State of Oklahoma as a result of settler colonial policies designed to encapsulate and to assimilate Indigenous peoples.

Norman is a vibrant university town of around 113,000 inhabitants with a growing entertainment and art scene. With outstanding schools, amenities, and a low cost of living, Norman is a perennial contender on "best place to live" rankings. Visit <http://www.ou.edu/flipbook> and <http://soonerway.ou.edu> for more information. Within an easy commute, Oklahoma City features a dynamic economy and outstanding cultural venues adding to the region's growing appeal.

The University, in compliance with all applicable federal and state laws and regulations does not discriminate on the basis of race, color, national origin, sex, sexual orientation, genetic information, gender identity, gender expression, age, religion, disability, political beliefs, or status as a veteran in any of its policies, practices, or procedures. The University of Oklahoma, recognizing its obligation to guarantee equal opportunity to all persons in all segments of University life, reaffirms its commitment to the continuation and expansion of positive programs which reinforce and strengthen its equal opportunity policies. This commitment stems not only from compliance with federal and state equal opportunity laws but from a desire to ensure social justice and promote campus diversity. Our commitment to the concept of equal opportunity requires sincere and cooperative efforts throughout all levels of our employment structure. We will continue to strive to reach the goals of fair and equal employment opportunities for all.

Qualifications

We seek candidates whose research, teaching, and service have prepared them to integrate and bolster our commitment to diversity, equity and inclusion, and have given them the confidence to fully integrate students, faculty, staff, and others from a wide spectrum of backgrounds. Successful candidates must have the interest and ability to contribute significantly to the advancement of human-computer teaming and interactive decision making and develop a nationally recognized program of sponsored research; teach at both the undergraduate and graduate levels; supervise graduate students and postdoctoral fellows. A Ph.D. in engineering, or related discipline is required.

Application Instructions

Confidential review of applications will begin in December 2021. Candidates are invited to submit a letter of interest, names of three references who will be contacted only upon approval from the applicant, curriculum vitae, and brief (~2-3 pages) statements of interest regarding 1) research, 2) teaching, 3) service, and 4) diversity, equity, and inclusion (DEI). The research statement should summarize your prior contributions to research and your goals for developing a research program at OU. The teaching statement should summarize past instructional and mentorship experiences, your pedagogical philosophy, and plans/goals for teaching at OU (including existing and proposed courses) and advising a diverse cohort of undergraduate and graduate students. The service statement should describe your vision for internal service to the academic unit, the College and the University, and for external service to our scientific community and other stakeholders. The DEI statement should summarize your understanding and experience of relevant best practices, and outline plans for contributing to diversity, equity, and inclusion efforts through research, teaching, and/or service.

Candidates are requested to submit their applications to the appropriate position listed above and inquiries should be directed to the search committee chairs, also listed above.

Equal Employment Opportunity Statement

The University of Oklahoma, in compliance with all applicable federal and state laws and regulations does not discriminate on the basis of race, color, national origin, sex, sexual orientation, genetic information, gender identity, gender expression, age, religion, disability, political beliefs, or status as a veteran in any of its policies, practices, or procedures. This includes, but is not limited to: admissions, employment, financial aid, housing, services in educational programs or activities, or health care services that the University operates or provides.