

Postdoctoral Researcher Positions in Visual Analytics or Trustable and Scientific AI

The University of Oklahoma, Norman, OK

We invite applications for a postdoctoral researcher position **with Summer or Fall start dates** in visual analytics, visualization, social media analytics, and big data analytics across a wide spectrum of application areas.

The successful candidate will perform duties including:

- Research in visual analytics in application domains including social media analysis, interactive and explainable AI, sustainable food-energy-water systems public safety, crisis management, functional soil mapping, precision agriculture.
- Research in Foundational Data Science with a specific focus on trustable and scientific AI
- Assist in drafting successful research grant proposals.
- Lead research activities within the group, including project management and stakeholder engagement.
- Assist in supervising graduate and undergraduate students.
- Interface with renowned academic research groups at and beyond OU.

Requirements

The candidate should hold a Ph.D. in Computer Science, Information Science, Industrial Engineering, Geography, Statistics, or a related field, with a strong research background and expertise in visual analytics and some of these areas:

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|------------------------------------|-------------------------------------|
| • Geospatial and temporal analysis | • Human factors |
| • Statistics | • Computer graphics |
| • Machine learning | • Digital Humanities |
| • Cognitive science | • Food-water-energy systems |
| • Human-computer interaction | • Sustainable/precision agriculture |
| • Big data | |

OU has multiple joint research projects with Peruvian Universities. Therefore, professional proficiency in Spanish is a plus.

Both beginning and senior postdoctoral candidates are encouraged to apply. Excellent oral and written communication skills are mandatory.

About Us

We are the OU Data Science Institute for Societal Challenges (DISC Center). The DISC Center is a new campus-wide institute in VPRP office. Our mission is to empower transdisciplinary research and collaboration to drive convergent solutions to societal challenges in Oklahoma, the nation, and the world through data science research, tools and capabilities.

The Data Institute for Societal Challenges convenes diverse teams to collaborate to solve some of the world's most pressing problems and achieve a lasting societal impact. These communities are:

- Foundational Data Science
- Aerospace, Defense and Global Security
- Community and Societal Transformation
- The Future of Health
- Environment, Energy, and Sustainability

DISC works closely with local and international collaborators including social media experts, sustainability experts, agricultural producers, health and public safety departments, economists, first responders, computational scientists, businesses, and researchers in science, engineering, and economics.

Some of the projects DISC is currently engaged with include:

- *AI Institute: Planning: A Gap-Based Approach to Frame and Develop Robust AI for Sustainable Agriculture*
This project aims to build stakeholder trust in the power of artificial intelligence to create congruency and efficiency in predicting Climate, Food, and Water processes by leveraging the foundation of the physical and biological processes underlying the data and their model representations.
- *UNSA/OU Alianza Institute: Public Health Monitoring and Decision Making*
This pilot project will evaluate the feasibility of a real-time, electronic, syndromic surveillance and decision-making system to provide (i) base data needed for accurate situational surveillance, virus spread status, and measurement of mitigation actions, and (ii) support for timely, data-, model-, and expertise-driven problem solving
- *Social Media Analytics and Reporting Toolkit (SMART)*
The Social Media Analytics and Reporting Toolkit (SMART) provides interactive exploration and analysis of real-time, publicly available Twitter and Instagram data through scalable integrated topic modeling algorithms, spatial cluster visualizations, exclusion and inclusion of semantic keyword filters, and temporal views
- *NATO- netwoRk for aLerting And managing publiC safeTy and resilience – REACT*
We received \$500,000 in funding from The North Atlantic Treaty Organization (NATO) to develop an innovative pilot platform (REACT) for the rapid and effective

management of scenarios immediately following a terrorist attack with chemical and biological (CB) agents as well as to control the diffusion of contamination over the space and time at short to-long term

- *Visual Analytics for Public Health Applications*

The ongoing and evolving COVID-19 pandemic has resulted in tremendous negative effects on people's daily lives. It is critical for decision makers such as health care officials and governors to foresee potential impacts and make timely decisions. To aid in this process, we are developing PanViz 2.0, a visual analytics application that combines epidemic model and AI-driven analytics to infer the best-fit parameters to enable the adaptation to ongoing pandemics at multiple spatial aggregations (national wide, state level, and county level).

To apply

Please send your CV and a one page research statement to Dr. David Ebert (ebert@ou.edu) and Dr. Audrey Reinert (areinert@ou.edu). Applications will be reviewed on a rolling basis until the positions are filled.

Regards,
Audrey