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University of Connecticut, Eversource Energy Center

Position ID:	UConn-Eversource Energy Center-494182 [#15797, 494182]
Position Title:	Assistant or Associate Professor, AI-based Prediction for Power and Environmental Systems
Position Type:	Tenured/Tenure-track faculty
Position Location:	Storrs, Connecticut 06269, United States [map]
Subject Areas:	Machine Learning Artificial Intelligence
Appl Deadline:	(posted 2019/12/24, listed until 2020/06/24)
Position Description:	Edit [revs] Preview Status

JOB SUMMARY

The Eversource Energy Center (EEC) and the School of Engineering at the University of Connecticut (UConn) is pleased to invite applications for a tenure-track faculty position at the rank of Assistant or Associate Professor. This position will be affiliated with both the Eversource Energy Center and a School of Engineering Department (Computer Science & Engineering, Mechanical Engineer, Electrical and Computer Engineering, and Civil & Environmental Engineering) to conduct research, education and outreach related to AI-based predictive modeling for power and environmental systems.

The successful candidate will be expected to contribute to research and scholarship through extramural funding, high quality publications, impact as measured through citations, performances and exhibits, and national recognition such as honorific awards. The successful candidate will share a deep commitment to effective instruction at the undergraduate and graduate levels, innovative courses and instruction methods, and mentoring of students in research, outreach, and professional development. Successful candidates will also be expected to broaden participation among members of under-represented groups; demonstrate through research, teaching, and/or public engagement the commitment to, and support of, diversity in the learning experience; integrate multicultural experiences into instructional methods and research tools; and provide leadership in developing pedagogical techniques designed to meet the needs of diverse learning styles and intellectual interests.

Founded in 1881, the UConn is a Land Grant and Sea Grant institution and member of the Space Grant Consortium. It is the state's flagship institution of higher education and includes a main campus in Storrs, CT, four regional campuses throughout the state, and 13 Schools and Colleges, including a Law School in Hartford, and Medical and Dental Schools at the UConn Health campus in Farmington. The University has approximately 10,000 faculty and staff and 32,000 students, including nearly 24,000 undergraduates and over 8,000 graduate and professional students. UConn is a Carnegie Foundation R1 (highest research activity) institution, among the top 25 public universities in the nation. Through research, teaching, service, and outreach, UConn embraces diversity and cultivates leadership, integrity, and engaged citizenship in its students, faculty, staff, and alumni. UConn promotes the health and well-being of citizens by enhancing the social, economic, cultural, and natural environments of the state and beyond. The University serves as a beacon of academic and research excellence as well as a center for innovation and social service to communities. UConn is a leader in many scholarly, research, and innovation areas. Today, the path forward includes exciting opportunities and notable challenges. Record numbers of undergraduate applications and support for student success have enabled the University to become extraordinarily selective.

The School of Engineering at UConn harbors a rich environment of instruction and research,

offering rigorous degrees (B.S., M.S., and Ph.D.) and a world-class research enterprise. Across seven departments, the School has 180 faculty members educating over 4,000 undergraduate and graduate students. Combined with visionary research to develop solutions to some of the world's greatest engineering challenges, the School of Engineering helps to position UConn as one of the best public universities in the United States.
As a trusted source for energy expertise, the Eversource Energy Center is a leading energy industry-academia partnership advancing research and cutting-edge technologies to continuously improve power grid efficiency and reliability. EEC has established a reputation for ingenuity across the country in predictive analytics and innovative solutions for electric reliability, forest sustainability, grid hardening and grid modernization. With an initial $9M investment from Eversource Energy and an additional $2M from other utilities and industrial partners, EEC funds several projects ranging from predictive analytics for storm-based power outages, to grid modernization and cyber-enabled secure power systems. EEC recently acquired a major RTDS-based grid simulation testbed facility and plans to invest in research projects that will use this grid simulation system for testing and validation of distributed energy resources in the power grid and grid modernization methods. In addition to power grid resilience and grid modernization research, EEC is also part of an interdisciplinary team establishing a biodiversity forecasting institute to predict future changes in biological diversity and ecosystem services at global scale.

DUTIES AND RESPONSIBILITIES

The successful candidate will be expected to develop and sustain an internationally recognized and externally funded research program in one or more of the aforementioned areas of engineering. The successful candidate must also share a deep commitment to effective instruction at the undergraduate and graduate levels, development of innovative courses and mentoring of students in research, outreach, and professional development. It is the expectation that the candidate will broaden participation among members of under-represented groups; demonstrate through their teaching, research, and/or public engagement the richness of diversity in the learning experience; integrate multicultural experiences into instructional methods and research tools; and provide leadership in developing pedagogical techniques designed to meet the needs of diverse learning styles and intellectual interests.

The successful candidate will also contribute to EEC's interdisciplinary research programs that uses advanced machine learning methods for one or more of the following areas: (1) predicting extreme events' impact on environment and infrastructure systems, (2) advancing visibility and predictability of renewables integration in the power grid, (3) predicting biological-climatic interactions, (4) advancement of smart and connected, civil and transportation systems for energy efficiency and resiliency, or (5) advancing energy-environment-transportation nexus system models. The research is expected to lead to transformative commercial products or services that enhance reliability and promote public understanding of energy infrastructure needs and resilience programs.

The successful candidate will:

- Have a research focus on areas such as:
    - Advanced statistical modeling and geospatial data processing;
    - Infrastructure impact modeling;
    - Biological-climate predictive models;
    - Climate change impacts on the evolution of storm hazards and exposure.
    - Reliable integration of distributed energy resources including renewable energy and storage technologies with the grid.
    - Machine learning and predictive modeling for power grid reliability
    - AI and automation applications to moderate grid loading using the internet of things (IoT)
    - Applied machine learning and data-driven predictive modeling
    - Innovation and application of smart city and 5G technologies to predict and mitigate risk and damage from local weather events.
    - Reinforcement learning for intelligent transportation systems
    - Power demand and resiliency to meet future transportation needs.
- Contribute to one of the School of Engineering departments' academic, research and

outreach mission and the mission of Eversource Energy Center.
- Teach undergraduate and graduate courses that meet the curricular needs of one of the School of Engineering departments.
- Advise and mentor undergraduate and graduate students.
- Provide service and leadership to the University of Connecticut, to external academic and scientific communities, and to the general public.

MINIMUM QUALIFICATIONS

1. A Ph.D. in any one of the following engineering fields: Civil and Environmental, Electrical, Computer Science or Mechanical. Equivalent foreign degrees are acceptable.
2. Research credentials in AI-based modeling.
3. A background that provides preparation for teaching excellence in undergraduate and graduate courses in any engineering field.
4. Excellent oral and written communication skills.
5. Strong interpersonal skills.
6. Demonstrated success in original research, and publication of that work in archival journals.
7. Experience with oral presentations at national or international scientific meetings.
8. More senior candidates seeking an appointment at the Associate Professor level should have established significant research programs with a track record of securing external funding as well as demonstration of a leadership role as the PI of large research grants.

PREFERRED QUALIFICATIONS

1. Research credentials that complements existing faculty expertise and research programs in the Eversource Energy Center.
2. Experience in collaboration with industry.
3. Success in developing research grant applications to federal funding agencies and to power system industries.

APPOINTMENT TERMS

This is a 9-month tenure-track position with an expected start date of August 23, 2020. The successful candidate's primary academic appointment will be at the Storrs campus with the possibility of work at UConn's regional campuses across the state. Salary and rank will be commensurate with qualifications.

TO APPLY

Please apply online to Academic Jobs Online (**https://academicjobsonline.org/ajo/jobs/15797**) and submit the following application materials:

- A **curriculum vitae**
- A **cover letter**
- A three- to five- page **research plan** (innovative concepts that will form the basis of academic career, experience in proposal development, mentorship of students, etc.)
- A two-to-three page **teaching plan** (including teaching philosophy, teaching experience, commitment to effective learning, concepts for new course development, etc.)
- **Commitment to diversity statement** (including broadening participation, integrating multicultural experiences in instruction and research and pedagogical techniques to meet the needs of diverse learning styles, etc.)
- Additionally, please follow the instructions in Academic Jobs Online to direct **four reference writers** to submit letters of reference on your behalf.

Review of applications will start on February 17, 2020. For more information regarding the Eversource Energy Center please visit the department website at **http://www.eversource.uconn.edu/**.

Direct inquiries to Ronny Heredia via email at **ronny.heredia@uconn.edu**.

At the University of Connecticut, our commitment to excellence is complemented by our

commitment to building a culturally diverse community.

Employment of the successful candidate is contingent upon the successful completion of a pre-employment criminal background check.

This position will be filled subject to budgetary approval.

All employees are subject to adherence to the State Code of Ethics which may be found at **http://www.ct.gov/ethics/site/default.asp**.

The University of Connecticut is committed to building and supporting a multicultural and diverse community of students, faculty and staff. The diversity of students, faculty and staff continues to increase, as does the number of honors students, valedictorians and salutatorians who consistently make UConn their top choice. More than 100 research centers and institutes serve the University's teaching, research, diversity, and outreach missions, leading to UConn's ranking as one of the nation's top research universities. UConn's faculty and staff are the critical link to fostering and expanding our vibrant, multicultural and diverse University community. As an Affirmative Action/Equal Employment Opportunity employer, UConn encourages applications from women, veterans, people with disabilities and members of traditionally underrepresented populations.

Application Materials Required:

Submit the following items online at this website to complete your application:

- Cover Letter
- Curriculum Vitae
- Research Plan
- Teaching Plan
- Commitment to Diversity Statement
- Four References (no actual letters, just names and email addresses)

And anything else requested in the position description.

Further Info:

Eversource Energy Center
Innovation Partnership Building
159 Discovery Drive
Unit 5276
Storrs, CT 06269-5276