Job Title	Postdoctoral Fellow
PVN ID	HC-2409-006450
Category	Postdoctoral
Location	HUNTER COLLEGE
Department	Chemistry
Status	Full Time
Annual Salary	$70,000.00 - $70,000.00
Hour(s) a Week	35
Closing Date	Nov 11, 2024 (Or Until Filled)

General Description

This project focuses on data-driven research discovery in chemistry and involves designing and implementing machine learning methods for materials discovery, specifically in the field of solid state radiochemistry. The candidate is expected to collect reliable data on materials, develop descriptors, apply machine learning methods, and validate the predictions using experiments. The candidate should have proven track record in academic and industrial settings, with expertise in experimental characterization and synthesis techniques. Experience in solid state synthesis and material characterization is required (high-temperature solid-state reactions, powder X-ray diffraction, transmission electron microscopy, scanning electron microscopy). Machine learning skills in Python and industry-standard libraries (TensorFlow, Scikit Learn, NumPy, and Pandas) along with scientific computing skills are necessary. In addition, the candidate is expected to manage the laboratory operations and maintain equipment and supplies. Previous postdoctoral, industrial, or startup experience is required with a proven record of first-author peer-reviewed publications, presentations, and workshop teaching/training. Hands-on training and mentoring of undergraduate, graduate, and postdoctoral researchers is required.

Other Duties

The successful candidate should be able to train and work with graduate students and undergraduates on this project. The candidate will be writing up manuscripts and giving presentations on their work. It is highly encouraged to develop and teach Material Informatics course and participate in regularly organized machine learning workshops. The candidate will be working with faculty and staff at Hunter College and collaborators at national laboratories.

Qualifications

1. Extensive experience in machine learning assisted materials discovery, as demonstrated through published works.
2. Experience in material synthesis using high-temperature methods and their characterization.
3. Ability to develop material structure maps by developing interpretable descriptors.
4. Experience in Python and relevant libraries, as demonstrated by GitHub projects or publications.
5. Ability to train students and staff in machine learning, as it pertains to materials chemistry.
6. Analyze, interpret, and report research results and assist in the preparation of manuscripts and grant applications.
7. Excellent communication skills, that is written and oral communication.
8. Experience in active learning methods is an asset.