

Job Description:

The Department of Physics, Applied Physics and Astronomy at Rensselaer Polytechnic Institute has an opening for an outstanding postdoctoral research fellow in the inter-disciplinary area of machine learning for materials. This research will exploit machine learning tools for the study of materials. This includes, but is not limited to, the study of two-dimensional (2D) magnetic materials. This effort will be highly interdisciplinary and will involve computational physics, experimental condensed matter physics and artificial intelligence.

We will develop machine learning (ML) models to augment investigations of 2D magnetic materials using high-throughput density functional theory calculations. We will use ML to discover 2D magnetic materials and to uncover physical insights for magnetic ordering in 2D. This work will involve datamining existing materials databases, as well as creating new materials databases using DFT. Materials descriptors will be developed that are suited to the study of this class of materials. ML models will be trained, then analyzed to extract physical insight into the problem of magnetic ordering in reduced dimensions.

Seeking postdoctoral candidates with a PhD in one of the following areas: chemistry, physics, computer science, chemical engineering or electrical engineering. The candidate must have significant programming experience in one of the following languages: Python, Fortran, C, C++, Java and Matlab.

Proficiency in at least one of the following is preferred, but not required: unix / linux, machine learning models implemented in scikit-learn, graph theory, neural networks, Keras, Tensorflow, Bayes search optimization, git, bash / shell scripting, parallel programming (MPI / OpenMP), solid-state physics, and magnetic materials. The candidate should be familiar with DFT. The candidate must have a track record of publication in peer-reviewed journals or conference proceedings and be able to provide at least three letters of recommendation.

Job Application Contact: Trevor David Rhone

Job Application Email: rhone@materials-intelligence.com

A complete application includes:

- Curriculum Vitae or Resume
- Three References Letters
 - Please ask references to send the letters directly to rhone@materials-intelligence.com
 - References should be from persons familiar with your educational and professional qualifications (include your thesis or dissertation advisor, if applicable)
- Transcripts
 - Transcript verifying receipt of degree must be submitted with the application. Student/unofficial copy is acceptable
- If selected, the participant will also be required to write a research proposal:
 - Research topic should be related to the opportunity described above
 - The objective of the research topic should be clear and have a defined outcome
 - Include a timeline for completing the study
 - Include your research background, such as preparation and motivation for the research
- Please also apply to:
 - <https://rpijobs.rpi.edu/postings/8102>

Questions about this opportunity? Please email to rhonet@rpi.edu