Postdoctoral Position in Deep Learning and Molecular Image Analysis

The Department of Statistics and the Department of Biochemistry at the University of Nebraska-Lincoln are pleased to recruit candidates for a postdoctoral position in molecular image analysis. This position is supported by the Quantitative Life Sciences Initiative, a university-wide program supporting the integration of the data and life sciences. We are seeking candidates with expertise in data generated by molecular imaging techniques (e.g., XFEL, cryo-EM, UGED), computer science, statistics and machine learning, who have demonstrated a high level of skill in image preprocessing, management, and analysis.

The incumbent will be expected to develop a strong research program in data science and AI for molecular imaging. Responsibilities will include (1) developing methods for processing, segmentation, and analysis of molecular images derived from diffraction or single particle cryo-EM data, (2) developing software implementations of novel analytical approaches to molecular images, and (3) using newly emerging analytical and computational tools to extract the maximum amount of information from data produced by modern structural biological imaging modalities (e.g., serial crystallography, single particle cryo-EM, single particle diffraction).

The Initiative and the Departments of Statistics and Biochemistry will support successful candidates to establish effective disciplinary and trans-disciplinary collaborations including integration with existing research groups; connect with stakeholders, agency, and/or industry partners; obtain and leverage external and internal support (grants, fellowships, etc.) for research and teaching activities; publish in high-quality, high-impact peer-reviewed journals and participate in scientific meetings and other appropriate activities; and translate research-based information into learner-centered products.

The successful candidates will be expected to teach at least one regular course per academic year in molecular imaging and image analysis. In addition, the successful candidates will participate in program and curriculum development, including **graduate seminars and workshops**.

Minimum qualifications: PhD in Statistics, Mathematics, Physics, Biochemistry, or closely related field. Experience with analysis of data from molecular imaging experiments, as demonstrated by refereed papers, presentations, or other completed projects, e.g., PhD thesis. Computing and methodological skills appropriate to the preprocessing and analysis of data types with which the candidate has experience.

Preferred qualifications: Demonstrated methodological novelty and creative ability in one or more area of deep learning and AI applicable to molecular imaging. This includes, but is not limited to, Bayesian statistics, Gaussian processes, image analysis, and prediction of optimal experimental settings and molecular orientation. Collaborative research experience in structural biology using either X-ray crystallography or cryo-EM approaches. Proficiency with modern object-oriented programming languages including C++ and Python. Communication skills, written, verbal and otherwise, at a level sufficient to interact easily with a broad range of researchers at UNL, with the academic world more generally, and with the broader Nebraska scientific community.

To view details of the position and make application, go to http://employment.unl.edu, requisition F_190163. Applicants will be required to attach a letter of interest, curriculum vitae, contact information for three professional references, and a one-page statement of research interests. This is a two year position conditional on a successful evaluation at the end of the first year. Salary starts at $60,000 + benefits and is commensurate with experience. The last item should be attached as Other Document. Review of applications begins October 31, 2019 and continues until the position is filled or the search is closed.

As an EO/AA employer, qualified applicants are considered for employment without regard to race, color, ethnicity, national origin, sex, pregnancy, sexual orientation, gender identity, religion, disability, age, genetic information, veteran status, marital status, and/or political affiliation. See http://www.unl.edu/equity/notice-nondiscrimination.