Open Postdoctoral Fellow Position in Medical AI

Department of Biomedical Data Science
Stanford University School of Medicine

The Laboratory of Quantitative Imaging and Artificial Intelligence (QIAI) in the Department of Biomedical Data Science at Stanford University is searching for a postdoctoral scholar. The QIAI Laboratory is led by Dr. Daniel Rubin, who is also affiliated with the Departments of Radiology and Medicine (Biomedical Informatics Research) at Stanford University. The lab focuses on cutting-edge research at the intersection of imaging science and biomedical informatics, developing and applying AI methods to large amounts of medical data for biomedical discovery, precision medicine, and precision health (early detection and prediction of future disease). The lab develops novel methods in image/text analysis and AI, including multi-modal and multi-task learning, weak supervision, knowledge representation, natural language processing, and decision theory to tackle the challenges of leveraging medical Big Data. Our exciting work is bridging a spectrum of biomedical domains with multidisciplinary collaborations with top scientists at Stanford as well as with other institutions internationally.

The QIAI lab provides a unique multidisciplinary environment for conducing innovative AI-based healthcare research with a strong record of scholarly publication and achievement. Core research topics in the laboratory include: (1) automated image annotation using unsupervised methods of processing associated radiology reports using word embeddings and related methods; (2) developing methods of analyzing longitudinal EMR data to predict clinical outcomes and best treatments, (3) creating multi-modal deep learning models integrating multi-dimensional EMR and other data to discover electronic phenotypes of disease, (4) developing AI models with noisy or sparse labels (weak supervision), and cross-modal, multi-task learning, and observational AI approaches, and (5) developing and implementing algorithms for distributed computation for training deep learning models that leverage multi-institutional data while avoiding the barriers to data sharing.

The postdoctoral scholar will be working on two core research topics: (1) develop foundational AI methods for analyzing and extracting information from clinical texts; (2) develop clinical prediction models using multi-modal and longitudinal electronic medical records (EMR) data. The scholar will deploy and evaluate these methods as clinical applications to transform medical care.

Requirements:

- Post-graduate degree (PhD or MD, completed or near completion) in biomedical data science, informatics, computer science, engineering, statistics, computational biology, or a related field
- Experience in machine learning and AI, particularly in computer vision and image analysis
- Strong record of distinguished scholarly achievement
- Outstanding communication and presentation skills with fluency in spoken and written English

Interested applicants should submit a Curriculum Vitae, a brief statement of research interests, and three letters of reference in one PDF document to rubin-lab-jobs@lists.stanford.edu.

Lab Web page: http://rubin.web.stanford.edu/

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