

Job Summary

The Tsui Laboratory at the Children's Hospital of Philadelphia (CHOP) is inviting applications for a postdoctoral fellow position that offers the opportunity to work in the areas of statistical natural language processing (NLP), electronic health records, predictive modeling. The Tsui Laboratory is studying predictive modeling applied to electronic health records (EHRs), including structured, unstructured, and streaming waveform data, for a variety of translational applications ranging from disease diagnosis and surveillance, detection of morbidity and mortality, and quality of patient care. The postdoctoral fellow will be mentored by Dr. Rich Tsui, Director of the Tsui Laboratory in the Departments of Anesthesiology and Critical Care (ACC), and Biomedical and Health Informatics (DBHi).

The desired candidate must have a terminal degree (PhD) in computer science or related fields with publications. The candidate will work within our research team to lead the development of NLP algorithms and construct novel predictive models for patients' risk estimates.

Job Responsibilities

It is expected that this individual will conduct independent scholarly research, and will contribute directly to the overall translational research goals of the project and the research group. Postdocs will be expected to participate in project planning, recording and interpretation/evaluation of data, and communication of results. The successful candidate is also expected to demonstrate scientific knowledge of statistics, machine learning and NLP, and demonstrate the capability to further advance current state-of-the-art algorithms.

Postdocs will also be expected to acquire technical and manuscript/grant writing skills; and participate in seminars, lectures, poster sessions and presentations at national meetings. Postdoctoral fellows also may be required to develop new methods and protocols for research, and assist with the development of other research projects in the lab.

Postdoctoral fellows at CHOP receive mentored translational science and clinical informatics training in a rich scientific environment that includes both CHOP and University of Pennsylvania research communities, as well as exposure to several large multi-institutional collaborations. Postdoctoral fellows training in DBHI will serve to extend, refine and enhance skills necessary for professional and career development in clinical informatics research, and will enable the individual to broaden his/her scientific background by acquiring new research capabilities.

Required Education and Experience

PhD in computer science, statistics, mathematics, engineering, biomedical informatics or related fields

Additional Technical Requirements

- ❖ Proficiency in NLP algorithms
- ❖ Proficiency in machine learning, deep neural networks
- ❖ Proficiency in Python, R or similar commonly used statistical languages/packages
- ❖ Java programming capability
- ❖ Values research integrity and collaborative research
- ❖ Strong research skills
- ❖ Effective problem solving/critical thinking skills

- ❖ Ability to work independently and with a strong work ethic
- ❖ High level of motivation
- ❖ Excellent communication/interpersonal skills
- ❖ Ability to exercise discretion and judgment