Position Description

The Foy Lab at the University of Washington Department of Laboratory Medicine & Pathology is seeking a Postdoctoral Scholar for development of machine learning approaches to analyze high-throughput, multi-modal hematologic datasets. A PhD in computer science (or a related field) and significant experience in machine learning or statistical data analysis is essential. Experience in computer vision or Bayesian inference, and prior work in healthcare applications is strongly desirable.

Dependent on their research interests, the successful applicant would develop and lead projects on either a) developing Bayesian methods to adaptively benchmark patients and generate context-specific definitions of 'normality'; b) develop computer vision methods to analyze blood smear imaging and improve clinical diagnosis; or c) develop computational approaches to extract clinically meaningful signals from novel, high-throughput clinical flow cytometry data sources. The applicant would have significant intellectual freedom, and ability to develop new skills, while contributing to projects that can actively improve clinical care.

The Lab

The Foy Lab works on a range of projects at the intersection of mathematics, machine learning, and medicine, with particular focus on hematology applications. We build computational tools to support clinical operations, enhance patient care, and uncover novel physiology. Examples include developing computer vision tools to detect blood cell abnormalities, using large-language models to enhance drug screen sign-outs, and developing personalized and adaptive benchmarks for laboratory tests. We are a supportive and friendly group, whose goal is to build open tools that can actually get deployed in clinic.

Duties & Responsibilities

- Develop Bayesian methods to construct personalized risk metrics from clinical time series.
- Develop unsupervised learning approaches to handle high-throughput raw flow cytometry data
- Support ongoing computer vision projects within the lab.
- Contribute to mentorship and training of junior lab members

Appointment Details

The position is a twelve-month appointment at 100% FTE, with strong likelihood to extend employment to future years. The post will be hosted at the University of Washington Medical Center – though partial remote work flexibility is available. The anticipated start date is July 1st 2024. University of Washington postdoctoral scholar appointments are for a temporary, defined period not to exceed 5 years, including any previous external postdoctoral experience.

Instructions

To apply, please submit the following:

- A cover letter detailed past research experience, and future goals
- Curriculum vitae
- A copy of one first-author publication or pre-print
- Names and contact information for two professional referees