Postdoctoral Fellow Positions at University of Washington

Two postdoctoral fellow positions are available in the lab of Prof Su-In Lee in the Departments of Computer Science & Engineering (CSE) and Genome Sciences (GS) at the University of Washington in Seattle.

The Lee lab is interested in developing computational approaches based on machine learning and statistics to address key problems in biology and medicine. Current research includes *Systems Medicine* – an emerging field that aims to infer and "reconstruct" biological networks underlying complex disease processes by integrating various types of high-throughput biological data; and to define clinically detectable molecular "fingerprints" resulting from the disease-perturbed biological networks to detect and stratify various pathological conditions for personalized and predictive healthcare. Specific research themes include:

- Functional genomics towards personalized health care – predicting sensitivity to chemotherapy drugs in cancer (Acute Myeloid Leukemia) treatment based on functional genomic data
- Systems biology of disease mechanisms (cancer, metabolic syndrome, cardiovascular disease), complex biological traits, evolution, development and tissue specificity
- Systems genetics -- system-level understanding of the effect of genetic/epigenetic variation on complex biological traits
- Genomics meets genetics – integrating functional genomic data to inform genome-wide association studies (lung functions, dementia)
- Predictive medicine – predicting the condition of critical patients in ICU based on time-series measurements of many clinical variables
- Developing novel machine learning and data mining techniques

Many of the projects are multidisciplinary in nature and are being conducted in an excellent environment in which to learn and integrate computational and clinical approaches to human disease. The University of Washington is one of the top universities in all relevant fields – computational biology, genetics/genomics, medicine, AI/ML and statistics/biostatistics.

Research projects will provide an opportunity to develop a working knowledge of Medicine and specific projects with collaborators in the Departments of GS, Medicine, Epidemiology, Pathology, Fred Hutchinson Cancer Center, and Group Health. This tight collaborative network facilitates access to primary data, and experimental and clinical settings in which to validate and extend new hypotheses generated by our research. The postdoctoral fellow may be co-mentored by Prof Su-In Lee and other computational biologists at UW – Profs Bill Noble, Martin Tompa, and Larry Ruzzo – and the project-specific collaborators.

For more information including active research projects in the lab and the list of collaborators, please visit our lab project website:

http://www.cs.washington.edu/homes/suinlee/research.html

Competitive candidates will have received a PhD in computer science, electrical engineering, statistics, biostatistics, bioengineering, genetics, biology, medicine, or a related field with solid computational background. A background in machine learning, statistics, with experience in analyzing large-scale genomic datasets is a plus. For a candidate with a strong quantitative background and solid programming skills, it is not essential to have experience with biological problems.

To apply, please email Prof Lee (suinlee@uw.edu) your updated CV, including a publication list and names of at least three references, with the subject line ‘Post-doctoral Fellowship Application’.