Postdoctoral Researcher
Laboratory of Joshua Welch
Department of Computational Medicine and Bioinformatics
Department of Computer Science and Engineering
University of Michigan
Ann Arbor, MI

Job Summary and Responsibilities:
The **Welch Laboratory** at the University of Michigan is seeking a postdoctoral researcher to develop and apply algorithms, machine learning methods, and statistical models for analysis of single-cell genomic data. Our research focuses on enabling biological discovery by applying novel computational approaches to genomic data. Broadly, we seek to understand what genes define the complement of cell types and cell states within healthy tissue, how cells differentiate to their final fates, and how dysregulation of genes within specific cell types contributes to human disease. This postdoctoral position will focus on methods for analyzing and integrating single-cell RNA-seq, single-cell epigenome data, and spatial transcriptomic data as part of two NIH-funded projects. We have data and biological collaborators from several different systems, including mouse bone marrow, mouse brain, and human hematopoietic stem cells. This is such an exciting and fast-moving field that Nature Methods recently selected "Single-Cell Multimodal Omics Analysis" as the Method of the Year 2019.

A unique benefit of this position is the rich set of collaborative opportunities available, allowing truly interdisciplinary training. Our collaborative network includes bench scientists and computational method development colleagues within the Michigan Center for Single-Cell Genomic Data Analytics, and more broadly within the Michigan Institute for Data Science (MIDAS). The Center hosts weekly meetings in which faculty and trainees discuss ongoing work and form new collaborations. Additional opportunities for collaboration are available with faculty in the Computer Science and Engineering department and the School of Medicine.

Desired Qualifications:
The ideal candidate will have a PhD in computational biology, bioinformatics, computer science, statistics, mathematics, or related field, and familiarity with high-throughput sequencing data. Life scientists with significant computational expertise should also apply. Additional desirable qualities include the ability to effectively work both independently and in a team, good communication skills, and a love for both computational method development and biological discovery.

Interested applicants should submit a brief statement of interest, CV, and contact information for three references. For questions regarding the position, please contact Dr. Joshua Welch at welchjd@umich.edu.