University of Michigan
Department of Computational Medicine & Bioinformatics

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Research Computer Specialist

Job Summary:

Applications are invited for a Research Computer Specialist position in the laboratory of Dr. Steve Parker in the Departments of Computational Medicine and Bioinformatics and Human Genetics at the University of Michigan Medical School. The major goal of the lab is to generate mechanistic knowledge about how disease susceptibility is encoded in the non-coding portion of the genome, with a focus on type 2 diabetes. We will accomplish this through an interdisciplinary combination of molecular/cellular and computational methods. Specifically, we will generate multiple high-throughput data sets on the genome, epigenome, transcriptome, and proteome across species and in disease-relevant tissues/cells and use computational approaches to integrate and analyze this data. The lab culture is one of openness, scientific rigor, friendliness, and general good humor.

The applicant will help organize and lead research projects involving the analysis of high-throughput sequencing data, typically generated on the Illumina platform. The position will focus heavily on both developing and implementing computational tools in a high-performance computing environment for the analysis of large data sets generated by the lab and from an international team of collaborators. Diverse projects in the lab will yield genome, epigenome, transcriptome and proteome data from different cell types and species. Specific examples of data the candidate will analyze includes: whole genome sequencing, RNA-seq, ChIP-seq, DNase-seq, ATAC-seq, and bisulfite-seq. A major goal of the lab is to understand enhancer biology, so additional computational approaches that integrate cross-species conservation and transcription factor position weight matrices will be utilized. The candidate will work both independently and in a team environment to analyze this data. In addition, the candidate will be open to learning new cutting-edge methods and techniques as research opportunities develop and directions change.

Qualifications:

BA/BS in computer science, bioinformatics, biostatistics, or a related field and experience working as computational genomics researcher or BA/BS in biology, genetics, molecular biology, biochemistry, or a related field and 2 years experience working in computational genomics and demonstrated expertise in bioinformatics. Experience with Unix/Linux and working with large datasets in a cluster-computing environment using job schedulers such as SGE or PBS. A working knowledge of basic principles of genetics/genomics such as gene structure and gene transcription. Programming expertise is required: experience with Perl (Python) and R is required and knowledge about C/C++ and/or Java is desired. The candidate should have strong written and oral communication skills, the ability to work under deadlines with general guidance, and is expected to contribute to manuscripts, grants and presentations. A critical qualification is a strong desire to contribute to a cutting-edge research program that combines computational approaches with genomics data to gain insights into enhancer biology and common diseases, specifically type 2 diabetes.

To apply, send a CV, brief cover letter describing your research experiences and ongoing research interests (including specific interest in this lab), and contact information for three references to Dr. Steve Parker at scjp@umich.edu.

Review of applications will begin immediately.