

**EXTENDED SEARCH**  
**Programmer in Computational Genomics**  
Institute for Genomic Biology  
University of Illinois at Urbana-Champaign

**JOB DESCRIPTION**

Two programmer positions are available in the NIH Center of Excellence for Big Data Computing at the University of Illinois at Urbana-Champaign. The incumbents will work on the NIH-funded project titled “KnowEnG: A Scalable Knowledge Engine for Large-Scale Genomic Data” (2014-2018). The KnowEnG Center will build a computational Knowledge Engine that uses data mining and machine learning techniques to obtain and combine gene function and gene interaction information from disparate genomic data sources.

The primary responsibilities for these two positions will be to work with the Center’s Principal Investigators to design and develop novel software for the analysis of large-scale biological datasets. The positions will emphasize research and software development in support of projects involving data integration from heterogeneous sources, data mining and machine learning on large data sets, and scalable computing. The incumbents are expected to be able to work independently and to contribute to the scientific goals of the Center.

The positions report to Principal Investigators and co-Investigators of the Center. They are 12-month, 100% time academic professional appointments with regular University benefits.

**SPECIFIC DUTIES AND RESPONSIBILITIES**

1. Develop high quality software systems for large data sets.
2. Cloud-based implementation of data mining algorithms.
3. Transform proof-of-concept code to production quality software.
4. Install and test software on multiple platforms.
5. Documentation of code.
6. Port, Integrate and maintain existing code and software packages.
7. Work closely with Center faculty and graduate students who are involved in research on algorithmic and systems aspects of the software.

**MINIMUM QUALIFICATIONS**

BSc degree in Computer Science or equivalent required.

Experience in Java/C++.

Experience in cluster and cloud computing systems such as Hadoop MapReduce and Spark.

Experience in SQL (e.g., MySQL) or other database systems.

Experience in Linux-based development.

Must be able to work independently and contribute to the scientific goals of the Center.

**PREFERRED QUALIFICATIONS**

MSc degree in Computer Science.

Ability to translate research concepts into robust computer code.

Ability to interact with researchers in data analysis algorithms and systems.

Experience with large-scale software design and development.

Knowledge of machine learning or data mining.

Ability to develop software under evolving specifications.  
Ability to interact with researchers in data analysis algorithms and systems.

### **APPLICATION PROCEDURES**

Salary will be commensurate with training and experience. The proposed starting date is negotiable after the close date. Please create your candidate profile at <http://jobs.illinois.edu> and upload your letter of interest (including email address), resume, and contact information for two professional references by April 10, 2015. Applicants may be interviewed before the closing date; however, no hiring decision will be made until after that date. All requested information must be submitted for your application to be considered. For further information regarding the application procedures, you may contact Kim Johnson, [kljohns@illinois.edu](mailto:kljohns@illinois.edu).

*Illinois is an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, religion, color, national origin, sex, age, status as a protected veteran, or status as a qualified individual with a disability. Illinois welcomes individuals with diverse backgrounds, experiences, and ideas who embrace and value diversity and inclusivity ([www.inclusiveillinois.illinois.edu](http://www.inclusiveillinois.illinois.edu)).*