

## Visiting Research Programmer

Department of Computer Science  
College of Engineering  
University of Illinois, Urbana-Champaign

The Department of Computer Science at the College of Engineering seeks applicants for a Visiting Research Programmer. The person in this position will extend OpenAtom software and develop the Argo exascale operating system prototype; help improve Charm++ functionalities as necessary for these and other projects. Write software for parallel supercomputers and clusters. Specific duties and responsibilities include:

- Develop an adaptive library for decomposition and parallelization of 3D Fast Fourier Transforms to determine relatively optimal choices at runtime based on problem size and platform characteristics.
- Collaboratively develop a highly scalable implementation of the GW-BSE method within the OpenAtom software framework.
- Develop two prototype components for Argo: a flexible framework for Lightweight Threads and a Pluggable Stackable Scheduler.
- Collaborate with Parallel Programming Lab and its research partners to improve the shared software infrastructure.

### Minimum Qualifications:

Required: Bachelor's degree in Computer Science or related field.

Three (3) years of experience with C and C++ with demonstrated strong proficiency with these programming languages.

### Preferred Qualifications:

Master's degree in Computer Science or related field. Demonstrated experience in the following areas: Scientific or technical computing; Parallel and/or distributed computing (e.g. MPI, OpenMP, Charm++); Numerical methods; Software and system performance modeling and analysis; Operating and run-time system development; GPU and accelerator programming (CUDA, OpenCL, Cell, Xeon Phi); Assembly language programming; Hardware specific tuning (e.g. SIMD, pipelining, caches, etc.). Strong oral, written, and verbal communications skills. Ability to work independently and handle multiple competing priorities with specific deadlines.

The Visiting Research Programmer position is a full time, benefits-eligible Academic Professional position appointed on a 12-month service basis. The position may become regular at a later date. The expected start date is as soon as possible after the closing date. Salary is commensurate with experience and qualifications.

To apply for this position, please create your candidate profile at <http://jobs.illinois.edu> and upload your cover letter, resume, and names/contact information for three references by November 22, 2013. Full consideration will be given to complete applications received by the closing date. For further information regarding application procedures, contact Annetta Allison, [allison2@illinois.edu](mailto:allison2@illinois.edu), (217)-265-7648.

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