Research Assistant and Postdoc Openings in the area of Parallel Computing Systems and Architectures in Fall 2017 in University of South Carolina

My name is Yonghong Yan, and I will be joining CSE department from Fall 2017 as assistant professor. My areas of research include parallel and high performance computing, parallel programming models and compilers, computer architectures and systems. The research and development in my research group support computer, computational and data scientists by accelerating performance improvement, application development and energy efficiency improvement for their applications. We develop new parallel programming models based on OpenMP, compiler and runtime systems using Clang/LLVM. We improve and use software and hardware tools (PAPI, Pin, HPCToolkit, Lttng, Eclipse, etc) and modeling technology to deepen the understanding of parallel execution and resource utilizations of parallel applications. We explore new hardware architecture (GPU, FPGA, RISC-V-based architecture) for applications and we collaborate with scientists to apply our solutions to real world problems. We are also expanding our research horizons to the emerging computing paradigm including neuromorphic computing, quantum computing, cognitive technologies such as AI architecture and applications. More information can be found from https://passlab.github.io .

There are openings for multiple research assistants and one for postdoc in my research group. We are looking for highly motivated graduate and doctor graduates who are interested in computer system and in developing innovative solutions of compiler and system software, as well as of computer architectures for parallel and high performance computing.

For performing productively in those areas, knowledge of C/C++ programming, data structures, compiler, computer architecture and operating system with Linux are required. Knowledge and experience of parallel programming (PThreads, OpenMP, Cilkplus, CUDA, MPI, etc) or computer architecture design such as using Verilog/VHDL, and RISC-V are not required, but preferred. For graduate research assistant, preference will be given to full-time Ph.D. students and thesis-option master students.

Within the group, you will work with a motivated team to solve cutting-edge performance problem in parallel computing. You will have opportunity of exposing yourself through peer-review publications, attendance and presentation in professional conferences worldwide, and internship in government labs and industry.

If you are interested, drop me an email at yanyh15@gmail.com with your resume/CV and transcript (no need official) that shows the core CS/ECE courses you took. We will schedule a time to talk if there is a fit of your background and interest.