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Xiaoyu Hu

Programming Skills

C: Basic experience in Linux environment development, Linux kernel development, Network development. Basic understanding in data structures.

Python: Most familiar language for scripting and automating tasks. Experience includes building news robot account for social networks, simple static site generator, and Paxos consensus algorithm simulation.

CUDA: Basic Understanding in CUDA GPU Programming. Experience in research on dynamic data race detection for GPU programs.

Linux: Basic administration skills.

Web Frontend: Basic understanding of HTML/CSS/JavaScript, and basic experience with tools including Bootstrap, Sass, Bower and Grunt.

Familiar With: Ruby, C++, Java, SQL.

Degrees, Selected Courses and Competencies

University of Rochester Rochester, NY, USA
Master of Science in Computer Systems anticipated May 2015

Operating Systems: Understanding in Operating Systems concepts. Course project experience in Linux Environment Programming and Linux kernel development.

Computer Architecture: Understanding in classic 5-stage pipeline MIPS CPU architecture, memory hierarchy, and Out-of-Order CPU execution.

GPU Programming: Studied GPU architecture and CUDA programming on GPU.

Software Analysis: Studied basics in programming language analysis, including value numbering, dataflow analysis and etc.. Basic understanding in LLVM infrastructure.

Parallel and Distributed Systems: Studied and implemented programs in computation models like pthreads, MPI, Hadoop, studied on topics including synchronization, consensus protocol and etc..

Computer Networks: Basic understanding in Computer Networking architecture. Course projects include simulating P2P query flooding protocol, implementing proxy server and etc..

Zhejiang University Zhejiang, China
Bachelor of Engineering in Instrumentation Science June 2013

Data Structures Fundamentals: Fundamental algorithms and data structures.

Software Engineering: Classic Waterfall Development and Agile Development Methodology.

Database Concepts: Understanding in Relational Database Management Systems and SQL language.

Research and Other Experience

University of Rochester Rochester, NY, USA

Research Project Sep 2014 - Dec 2014
Static Analysis of Linux Program Capabilities Using LLVM Infrastructure, under advisory of Professor John Criswell, implemented a prototype of inter-procedural analysis tool for unnecessary capability removal.

Teaching Assistant Sep 2014 - Dec 2014
Teaching Assistantship in Course “Programming Language Implementation and Design”.

Research Assistant May 2014 - Aug 2014
Collaborated on building, testing and evaluating tools for fast dynamic algorithm for GPU data race detection under advisory of Professor Chen Ding. Collaborated on publication:
P. Li, C. Ding, X. Hu and T. Soyata, "LDetector: A Low Overhead Race Detector for GPU Programs," in 5th Workshop on Determinism and Correctness in Parallel Programming (WoDet 2014), Salt Lake City, UT, Mar 2014.