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Xiaoyu Hu

Technical Skills

Linux: Basic administration skills. Linux environment programming and basics in kernel programming.
LLVM: Wrote whole-program analysis and transform pass with LLVM
CUDA: Understanding in CUDA GPU Programming.

Programming Languages and Frameworks

Skilled In: C, C++, Python, Ruby, CUDA.
Familiar With: Java, JavaScript, Haskell, SQL, OpenMPI, Hadoop.

Education

University of Rochester **Rochester, NY, USA**
Master of Science in Electrical and Computer Engineering anticipated May 2015

Operating Systems: Understanding in basic Operating Systems concepts.
Computer Architecture: Understanding in Out-of-Order CPU execution and memory hierarchy.
GPU Programming: Studied GPU architecture and CUDA programming on GPU.
Software Analysis: Programming language analysis, including value numbering and dataflow analysis.
Parallel and Distributed Systems: Studied parallel programming frameworks, synchronization, and consensus protocols.

Zhejiang University **Zhejiang, China**
Bachelor of Engineering in Instrumentation Science Jun 2013

Software Engineering: Classic Waterfall Development and Agile Development Methodology.
Database Concepts: Understanding in Relational Database Management Systems and SQL.

Research Experience

University of Rochester **Rochester, NY, USA**

Research Project Sep 2014 - Dec 2014
Static analysis of Linux program capabilities using LLVM infrastructure, advised by Professor John Criswell.

1. Implemented a prototype of whole program inter-procedural analysis and transformation tool to determine when programs can remove Linux program capabilities, therefore enforcing the Principle of Minimal Privileges.
2. Evaluated prototype on open source applications.

Research Project Jan 2014 - Aug 2014
Participated in project on fast dynamic algorithm for GPU data race detection, advised by Professor Chen Ding.

1. Assisted in building and debugging the data race checker tool.
2. Tested prototype on GPU applications for correctness and performance, compared with existing data race checking tools.
3. 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.*

Work Experience

University of Rochester **Rochester, NY, USA**

Teaching Assistant Jan 2015 - anticipated May 2015
Teaching Assistant for Course "Computer Organization".

Teaching Assistant Sep 2014 - Dec 2014
Teaching Assistant for Course "Programming Language Design and Implementation".