HEMING CUI

Assistant Professor, CS, HKU *heming@cs.hku.hk*

Academic Qualification

- PhD, Computer Science, Columbia University, New York, USA, 2014.
- Master, Computer Science, Tsinghua University, Beijing, China, 2008.
- Bachelor, Computer Science, Tsinghua University, Beijing, China, 2005.

Present Academic Position

- Jan 2015 - present, Assistant Professor, Computer Science, the University of Hong Kong.
- Website: `http://www.cs.hku.hk/~heming`

Relevant Research Experience

- Fault-tolerant distributed systems: [CRANE SOSP '15].
- Reliable multithreading: [TERN OSDI '10], [PEREGRINE SOSP '11], [PARROT SOSP '13].
- Security rule violation detection: [WOODPECER ASPLOS '13].
- Precise static data race detection: [WU PLDI '12].
- Dynamic instrumentation for bypassing concurrency errors: [LOOM OSDI '10].

Selected Publication

- **Heming Cui**, Rui Gu, Cheng Liu, Tianyu Chen, and Junfeng Yang. "Paxos Made Transparent". Proceedings of the 25th ACM Symposium on Operating Systems Principles (**SOSP '15**).
- **Heming Cui**, Jiri Simsa, Yi-Hong Lin, Hao Li, Ben Blum, Xinan Xu, Junfeng Yang, Garth Gibson, and Randy Bryant. "Parrot: a Practical Runtime for Deterministic, Stable, and Reliable Threads". Proceedings of the 24th ACM Symposium on Operating Systems Principles (**SOSP '13**).
- **Heming Cui**, Gang Hu, Jingyue Wu, and Junfeng Yang. "Verifying Systems Rules Using Rule-Directed Symbolic Execution". Proceedings of the 18th International Conference on Architecture Support for Programming Languages and Operating Systems (**ASPLOS '13**).
- **Heming Cui**, Jingyue Wu, John Gallagher, Huayang Guo, and Junfeng Yang. "Efficient Deterministic Multithreading through Schedule Relaxation". Proceedings of the 23rd ACM Symposium on Operating Systems Principles (**SOSP '11**).
- **Heming Cui**, Jingyue Wu, Chia-che Tsai, and Junfeng Yang. "Stable Deterministic Multithreading through Schedule Memoization". Proceedings of the Ninth Symposium on Operating Systems Design and Implementation (**OSDI '10**).
- Junfeng Yang, **Heming Cui**, Jingyue Wu, Yang Tang, and Gang Hu. "Determinism Is Not Enough: Making Parallel Programs Reliable with Stable Multithreading". Communications of the ACM 2014 (**CACM '14**).

- Jingyue Wu, Yang Tang, Gang Hu, **Heming Cui**, Junfeng Yang . "Sound and Precise Analysis of Parallel Programs through Schedule Specialization". Proceedings of the 33rd ACM SIGPLAN Conference on Programming Language Design and Implementation (**PLDI '12**).
- Jingyue Wu, **Heming Cui**, and Junfeng Yang. "Bypassing Races in Live Applications with Execution Filters". Proceedings of the Ninth Symposium on Operating Systems Design and Implementation (**OSDI '10**).