Xiangfeng(Allen) Zhu

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Education

University of Michigan, Ann Arbor — Expected: Dec 2020

Bachelor of Science, Computer Science — GPA:3.82/4.0

Experiences

Software Systems Lab University of Michigan — Nov. 2018 - Now

Research Assistant Advisor: Prof. Mosharaf Chowdhury

- Co-developed a general-purpose execution engine, Sol, that can adapt to diverse network conditions on top of Apache Spark.
- Improved SQL, machine learning, and streaming jobs by 4.2× and 16.4× on average, respectively, in offline and online settings compared to Apache Spark in resource-constrained networks.

Disorderly Lab UC Santa Cruz — Mar. 2018 - Now

Undergraduate Researcher Advisor: Prof. Peter Alvaro

- Designing a tracer and a fault injector using system-level provenance for unmodified distributed systems
- Developed a debugging approach for distributed systems based on analysis of provenance data obtained during system executions
- Evaluated our approach on the TaxDC collection of real-world bugs from large-scale distributed systems.

Dropbox San Francisco, CA — May 2019 - Aug. 2019

Software Engineer Intern Filesystem Team

- Worked on the next-generation distributed filesystem for Dropbox
- Designed and implemented an asynchronous system to unmount namespaces that a user loses access to
- Rearchitected our Mapreduce framework to be more efficient and fault-tolerant using RocksDB and gRPC

Publication

- Lennart Oldenburg, **Xiangfeng Zhu**, Kamala Ramasubramanian, Peter Alvaro, "Fixed It For You: Protocol Repair Using Lineage Graphs", *Proceedings of the 9th biennial Conference on Innovative Data Systems Research (CIDR 19)*, Asilomar, CA, 2019

Projects

Distributed Debugger Using Provenance Graph (Go) — Mar. 2018 - Aug. 2018

- Implemented a lineage-driven distributed debugger that can analyze the given program and give suggestions to the programmer how and where to correct the program

Fault-tolerant Scalable Key-Value Store (Python) — Jan. 2018 - Mar. 2018

- Built a distributed, fault-tolerant, highly available and eventually consistent key-value store that can store the amount of data that cannot fit into one single machine.

Skills

- Language: Java, C, C++, Python, Go, Scala, Bash, SQL, HiveQL, HTML, CSS, LaTeX, JavaScript(Limited)
- Tool: Perf, Valgrind, Git, Vim, Docker, Xcode, Flask
- Data: Oracle, MySQL, Neo4j, Hadoop, Hive, Spark, Flink, Zookkeeper