Xin Li
[Curriculum Vitae]

Email : lixinchengdu@gmail.com
Mobile : +1-951-743-9121

Education

- **University of California Santa Cruz** — Santa Cruz, CA
  Ph.D in Computer Engineering; GPA: 3.80/4.00 — *Sep. 2016 – Dec. 2018*
- **University of California Riverside** — Riverside, CA
  Master of Science in Electrical Engineering; GPA: 3.86/4.00 — *Sep. 2012 – June. 2013*
- **University of Electronic Science and Technology of China** — Chengdu, China
  Bachelor of Engineering in Telecommunication Engineering; GPA: 3.93/4.00 — *Sep. 2008 – June.2012*

Experience

- **VMware, Inc.** — Palo Alto, CA
  Member of Technical Staff — *Dec. 2018 –Now*
  - **CorfuDB: a log-based strong-consistent distributed data store**:
    1. Designed and implemented an in-place garbage collection mechanism to reclaim disk space for data log which replaces previous checkpoint-and-trim mechanism. This method reduces 30% peek disk space usage.
    2. Proposed and implemented a new method to speedup 50% transaction sync up throughput.
    3. Proposed new correctness criteria for fault injection framework.
- **Facebook, Inc.** — Seattle, WA
  Software Engineer Intern — *June. 2017 – Sep. 2017*
  - **ARES: Automatic Resource Estimation for Sharded Services**: systematically predict the per-shard resource utilization for a broad spectrum of internal services in Facebook by multivariable linear regression analysis. It is the first time for Facebook to systematically explore the per-shard resource utilization of various services.
- **University of California Santa Cruz** — Santa Cruz, CA
  Research Assitant and Teaching Assistant — *Sep. 2016 – now*
  - **GSC: An IoT Data Communication Framework for Authenticity and Integrity**: Design a novel framework aiming to ensure authenticity and integrity of end- to-end communications for emerging IoT applications. This work is 50X faster than alternative solutions in terms of signing/verifying throughput.
  - **Secure outsourced data query for Internet of Things**: Propose a SQL-like language to query data from outsourced database hosting IoT data. This work is an order of magnitude more efficient than state-of-art general generic solutions by taking advantage of the fact that IoT data are mainly persisted in log-based databases.
- **University of Kentucky** — Lexington, KY
  Research Assistant and Teaching Assistant — *Aug. 2013 – Aug. 2016*
  - **APPLE: An NFV Orchestration Framework for Interference-free Policy Enforcement**: Propose a modular virtual network function placement algorithm to enable multiple network security policy enforcing applications to collectively control the network without interfering network traffic forwarding paths. This is the the first interference-free NFV orchestration framework based on virtual machines.
  - **Low-Complexity Multi-Resource Packet Scheduling for Network Functions Virtualization**: The efficiency of the proposed algorithm is achieved by leveraging the power law distribution of flow size: Precise fair scheduling is only strictly enforced among elephant flows. Elephant flows are identified through the shielded count-min sketch. The packet scheduling speed is improved by at least 2X on real datasets.

Selected Publications

- **Xin Li**, Minmei Wang, Shouqian Shi, Chen Qian "Towards Verifiable IoT Data Management." *In Proc. of ACM/IEEE IoTDI*, 2019.
- **Xin Li**, Minmei Wang, Huazhe Wang, Ye Yu, Chen Qian "Towards Secure and Efficient Communication for the Internet of Things." *IEEE/ACM Trans. on Networking*, 2019.

Skills

- **Languages**: C++, Java, Python, Bash, SQL **Frameworks**: OpenStack, Kubernetes, CPLEX, Thrift