Jin Shang

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EDUCATION

Carnegie Mellon University - School of Computer Science   Pittsburgh, PA
Master of Science in Computer Science, 4.05/4.00   Aug 2019 - Dec 2020
- **Selected Courses**: Advanced Deep Learning (A+), Graduate Algorithms (A+), Compiler Design*, Intro to Computer Systems, Distributed System, Database System, Programming Languages*, Machine Learning for PhD, Theorists' Toolkit.
- Teaching Assistant for Distributed Systems F20.

New York University Abu Dhabi   Abu Dhabi, UAE
Bachelor of Science in Mathematics and Computer Science, 3.897/4.00   Aug 2015 - May 2019
- **Selected Courses**: Algorithm, Computer Networks, Computer Security, Data Structure, Math Modeling, Numerical Methods, Operating Systems, Software Engineering, Statistics, Theory of Computation

INTERNSHIP EXPERIENCE

Google   Sunnyvale, CA (remote)
Software Engineering Intern, Cloud AI Platform Feature Store   May 2020 - Aug 2020
- Worked on Feature Store, a managed cloud service for Machine Learning teams to build, share and serve features at scale.
- Designed and implemented Feature Store's Batch Serving functionality, enabling serving large amounts of historical feature values for many entitites at high throughput, typically used for generating training data for Machine Learning models.
- Wrote comprehensive unit and e2e tests for Feature Store Batch Serving that covers multiple feature and entity types.
- Wrote a Python demo notebook and presented the end-to-end workflow of Feature Store to external and internal customers.

Tencent   Shenzhen, China
Software Engineering Intern, WeChat Data Center   June 2019 - Aug 2019
- Developed a real-time recommendation algorithm for WeChat Moments based on FTRL-Proximal online learning algorithm with C++; tested with WeChat's SvrKit RPC framework with 5ms training time per post and 97.4% accuracy.
- Designed and implemented a feature engineering toolkit package with Scala for Apache Flink that facilitates feature selection, concatenation, labeling and formatting, compatible with all major data formats supported by Apache Flink.

PROJECTS

BusTub Database Management System   CMU | Sep 2019 - Dec 2019
- Implemented the buffer pool manager, hash table, execution engine and logging and recovery for BusTub, a RDBMS.

GoRaft: Raft Consensus Algorithm in Go   CMU | Oct 2019 - Nov 2019
- Implemented Raft, a distributed consensus algorithm with leader election and log replication with RPC calls in Go.

Distributed BitCoin Miner   CMU | Sep 2019 - Oct 2019
- Developing Live Sequence Protocol (LSP) in Go, a transport protocol that provides reliable client-server communication.
- Implementing a scalable distributed coin miner system with LSP, enabling balanced collaboration between coin miners.

CSAPP Labs   CMU | June 2019 - Aug 2019
- Implemented advanced versions of CSAPP labs, including: a simple LRU cache, malloc() and free() with segregated lists, a tiny shell that supports signal handling and a basic HTTP web proxy with cache.

SELECTED PAPERS

Sofiane Bouarroudj, Dimitry Leites, **Jin Shang**. "Computer-aided study of double extensions of restricted Lie superalgebras preserving the non-degenerate closed 2-forms in characteristic 2", *Experimental Mathematics, 1-13, 1(2019).*

Sofiane Bouarroudj, Dimitry Leites, Alexander Lozhechnyk, **Jin Shang**. "The roots of exceptional modular Lie superalgebras with Cartan matrix", *Arnold Mathematical Journal, 63-118, 6(2020).*

Jin Shang, Muhammad Junaid Farooq, Quanyan Zhu. "Real-Time Transmission Mechanism Design for Wireless IoT Sensors with Energy Harvesting under Power Saving Mode", arxiv: 1812.02615

SKILLS

Programming Languages: *C/C++, Python, Java, GoLang, SQL, Mathematica, Scala*

Libraries and Tools: *C++ STL, Git, Numpy, Matplotlib, Apache Flink, Google Internal Tools (Blaze, CitC, Guitar, …)*