

ZONGSHUN ZHANG

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RESEARCH INTERESTS

Cloud Computing, Serverless, Computer Networks, Content Delivery Networks, Machine Learning for Systems and Networks, Multi-party Computing, Remote Direct Memory Access, Differential Privacy

EDUCATION

Boston University - USA *Aug. 2019 - present*

Ph.D. in Computer Science (cGPA: 3.75/4)

Advisor: Abraham Matta

University of Minnesota - USA *Aug. 2015 - May. 2019*

B.S. in Computer Science (cGPA: 3.70/4)

TECHNICAL SKILLS

Languages: Python, Java, C++, C, OCaml, R, HTML, CSS, MySQL, JavaScript

Others: MATLAB, Apache Spark, Apache Flink, TensorFlow, PyTorch, PySyft, PyGrid, Apache Thrift, Docker.

EXPERIENCE

Boston University - USA *Sept. 2019 - present*

Graduate Research Assistant

- Studying to enhance container scheduling, scaling and load balancing algorithm.
- Researching novel architectures for deep neural networks considering model and data privacy.

Boston University - USA *Sept. 2019 - present*

Graduate Teaching Assistant

- Courses including entry-level and advanced topics
- Led discussion sessions, held office hours and helped the main instructor with grading.

University of Minnesota - USA *Mar. 2018 - May 2019*

Research Assistant

- Reviewed the literature to devise evaluation metrics for stream processing engines.
- Tested *Apache Flink* using our evaluation metrics to benchmark its performance.

PROJECT

Anomaly Detection w/ Apache Flink *Jan. 2020 - May 2020*

- *Description:* This project employed machine learning techniques (e.g., clustering) to detect anomalies in voltage data from sensors using Apache Flink.

- *Skills:* Apache Flink, DBSCAN, socket programming

Data Mining w/ Spark *Jan. 2018 - May 2018*

- *Description:* This project implemented data mining techniques using *Apache Spark* to learn geo-distribution of reviewers and popularity of genres of top-rated movies.

- *Skills:* Apache Spark, DBSCAN

PUBLICATIONS

- *Poster*
 - Valeria Turina, **Zongshun Zhang**, Flavio Esposito, and Ibrahim Matta. Combining split and federated architectures for efficiency and privacy in deep learning. *ACM CoNEXT 2020*
- *Full Paper*
 - Valeria Turina, **Zongshun Zhang**, Flavio Esposito, and Ibrahim Matta. Federated or Split? A Performance and Privacy Analysis of Hybrid Split and Federated Learning Architectures. *IEEE CLOUD 2021*
 - Ali Raza, **Zongshun Zhang**, Nabeel Akhtar, Vatche Isahagian, and Ibrahim Matta. 2021. LIBRA: An Economical Hybrid Approach for Cloud Applications with Strict SLAs. *IEEE IC2E 2021*

OTHERS

- Received Ph.D. Fellowship from Boston University *2019 - present*
- Dean's list for multiple semesters at **University of Minnesota**.
- Participated in **Minnehack** hackathon in 2018 & 2019.