TIANYU LI

litianyu@mit.edu | tianyu-li-28608366 | tli2 | +1 412 636 4298

Education

Massachusetts Institute of Technology — Cambridge, MA

Ph.D. in Computer Science — *Aug. 2019 –*

- Advisor: Prof. Samuel Madden

Carnegie Mellon University — Pittsburgh, PA

M.S. in Computer Science – Research Thesis — *May. 2018 – May. 2019*

- Advisor: Prof. Andrew Pavlo
- Thesis: Supporting Hybrid Workloads for In-Memory Database Management Systems via a Universal Columnar Storage Format

Carnegie Mellon University — Pittsburgh, PA

B.S. in Computer Science, University Honors — *Aug. 2014 – May. 2018*

- minor in Software Engineering, Machine Learning, QPA 3.68

Research

Distributed Prefix Recovery — Jun. 2019 –

Microsoft Research, MIT DSG — *https://microsoft.github.io/FASTER/*

- system for fast prefix-consistent recoverability guarantee on sharded key-value stores

NoisePage System — Jun. 2018 – Oct. 2020

CMU DB — *https://noise.page/*

- DBMS storage and transaction engine to natively support Apache Arrow format with fast data export to Arrow-compatible analytical tools

Peloton System — Jan. 2017 – June. 2019

CMU DB — *https://pelotondb.io/*

- Self-driving DBMS Infrastructure

Industry Experience

Microsoft Research — Jun. 2019 – Aug. 2019, Jun. 2021 – Aug. 2021

Research Intern — *Redmond, WA*

Asana — May. 2017 – Aug. 2017

Software Engineering Intern, Security — *San Francisco, CA*

Google — May. 2016 – Aug. 2016

Software Engineering Intern, TI CorpEng — *Seattle, WA*

Publication

Asynchronous Prefix Recoverability for Fast Distributed Stores — SIGMOD 2021 (to appear)

Tianyu Li, Badrish Chandramouli, Jose Faleiro, Samuel Madden, Donald Kossmann

Mainlining Databases: Supporting Fast Transactional Workloads on Universal Columnar Data File Formats — PVLDB, 14(4): 534-546, 2021

Tianyu Li, Matthew Butrovich, Amadou Ngom, Wan Shen Lim, Wes McKinney, Andrew Pavlo

Everything is a Transaction: Unifying Logical Concurrency Control and Physical Data Structure Maintenance in Database Management Systems — CIDR 2021

Ling Zhang, Matthew Butrovich, Tianyu Li, Yash Nannapanei, Andrew Pavlo, John Rollinson, Huanchen Zhang, et al.