Jialin Ding

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EDUCATION

Massachusetts Institute of Technology 2018–Present
PhD, Computer Science
Advisor: Tim Kraska

Stanford University 2014–2018
Bachelor of Science with Distinction, Electrical Engineering
Minor in Economics

PUBLICATIONS

Tsunami: A Learned Multi-dimensional Index for Correlated Data and Skewed Workloads. Jialin Ding, Vikram Nathan, Mohammad Alizadeh and Tim Kraska. *VLDB 2021.*

The Case for Learned Spatial Indexes. Varun Pandey, Alexander van Renen, Andreas Kipf, Ibrahim Sabek, Jialin Ding and Alfons Kemper. *AIDB Workshop @ VLDB 2020.*

ALEX: An Updatable Adaptive Learned Index. Jialin Ding, Umar Farooq Minhas, Jia Yu, Chi Wang, Jaeyoung Do, Hantian Zhang, Yinan Li, Badrish Chandramouli, Johannes Gehrke, Donald Kossmann, David Lomet and Tim Kraska. *SIGMOD 2020.*

Learning Multi-dimensional Indexes. Vikram Nathan*, Jialin Ding*, Mohammad Alizadeh and Tim Kraska. *SIGMOD 2020.*

LISA: Towards Learned DNA Sequence Search. Darryl Ho, Jialin Ding, Sanchit Misra, Nesime Tatbul, Vikram Nathan, Vasimuddin Md and Tim Kraska. *Systems for ML Workshop @ NeurIPS 2019. Oral Presentation.*

Learning Multi-dimensional Indexes. Vikram Nathan*, Jialin Ding*, Mohammad Alizadeh and Tim Kraska. *ML for Systems Workshop @ NeurIPS 2019. Oral Presentation.*

SageDB: A Learned Database System. Tim Kraska, Mohammad Alizadeh, Alex Beutel, Ed Chi, Jialin Ding, Ani Kristo, Guillaume Leclerc, Samuel Madden, Hongzi Mao and Vikram Nathan. *CIDR 2019.*

A Machine-compiled Database of Genome-wide Association Studies. Volodymyr Kuleshov, Jialin Ding, Christopher Vo, Braden Hancock, Alexander Ratner, Yang Li, Christopher R, Serafim Batzoglou and Michael Snyder *Nature Communications 2019.*

Moment-Based Quantile Sketches for Efficient High Cardinality Aggregation Queries. Edward Gan, Jialin Ding, Kai Sheng Tai, Vatsal Sharan and Peter Bailis. *VLDB 2018.*

Efficient Mergeable Quantile Sketches using Moments. Edward Gan, Jialin

Ding and Peter Bailis. *SysML 2018. Extended Abstract.*

MacroBase: Prioritizing Attention in Fast Data. Firas Abuzaid, Peter Bailis, Jialin Ding, Edward Gan, Samuel Madden, Deepak Narayanan, Kexin Rong and Sahaana Suri. *TODS 2018.*

A Machine-Compiled Database of Genome-Wide Association Studies. Volodymyr Kuleshov, Jialin Ding, Braden Hancock, Alexander Ratner, Christopher Re, Serafim Batzoglou and Michael Snyder. *ISMB 2017. Short Paper.*

INDUSTRY EXPERIENCE

Research Intern, Microsoft Research, Redmond Summer 2020

- Researched learned data layouts for big data analytics, with direct applications to Azure's data warehouse service.

Research Intern, Microsoft Research, Redmond Summer 2018

- Led research on an updatable learned index structure for OLTP workloads, resulting in a SIGMOD 2020 publication.

Software Engineer Intern, Google Summer 2016

- As part of Google Safe Browsing, implemented a MapReduce pipeline to integrate Chrome browser incident data into the evaluation of user downloads.

Software Engineer Intern, Thumbtack Summer 2015

- Worked on SEO, automatic text generation, and recommendation systems.

FELLOWSHIPS AND AWARDS

- NSF Graduate Research Fellowship Program, Honorable Mention, 2018
- MIT Jacobs Presidential Fellowship, 2018