# DINGYU WANG

wangdy@umich.edu

## EDUCATION

- Bachelor of Engineering in Computer Science, College of Engineering, University of Michigan, 2019
- Bachelor of Engineering in Electrical and Computer Engineering, SJTU-UM Joint Institute, Shanghai Jiao Tong University, 2019

## RESEARCH

**Sequential Cardinality Estimation in Data Streams**
- Simplified the analysis of estimation algorithm that uses the martingale estimator.
- Developed new estimation algorithm that is practical and achieves a better memory-variance trade-off.

**Distributed Cardinality Estimation in Data Streams**
- Developed new framework to analyze the limiting performance of composable estimation algorithms.

**Contention Resolution for Multiple Access Channels**
- Found the exact optimal contention resolution algorithms for conflict size $2$.

## MANUSCRIPTS/IN SUBMISSION

- Simple and Efficient Cardinality Estimation in Data Streams
  Seth Pettie, Dingyu Wang and Longhui Yin
  arXiv:2008.08739
- Information Theoretic Limits of Cardinality Estimation: Fisher meets Shannon
  Seth Pettie and Dingyu Wang
  arXiv:2007.08051
- Optimal Protocols for 2-Party Contention Resolution
  Seth Pettie and Dingyu Wang
  link to the manuscript