

# Wenting Zheng

## Curriculum Vitae

[wenting@cmu.edu](mailto:wenting@cmu.edu)  
[wzheng.github.io](https://wzheng.github.io)

### Current positions

- 2021–Present **Assistant Professor**, *Carnegie Mellon University*, Pittsburgh, PA.
- 2021–Present **Co-Founder and Chief Scientist**, *Opaque Systems*, San Francisco, CA.

### Education

- 2014–2020 **Ph.D.**, *University of California, Berkeley*, Berkeley, CA.  
Advisors: Raluca Ada Popa and Ion Stoica
- 2013–2014 **Masters of Engineering**, *Massachusetts Institute of Technology*, Cambridge, MA.  
Advisor: Barbara Liskov
- 2009–2013 **Bachelor of Science**, *Massachusetts Institute of Technology*, Cambridge, MA.  
Electrical Engineering and Computer Science

### Awards

- 2023 **Google Research Scholar**.
- 2023 **NSF CAREER**.
- 2022 **IEEE Euro S&P 2022 Distinguished Paper Award**.
- 2019 **Invited Participant to EECS Rising Stars Workshop**.
- 2017–2018 **IBM Ph.D. Fellowship**.
- 2014–2016 **Berkeley Fellowship**.

### Publications

#### **BOLT: Privacy-Preserving, Accurate and Efficient Inference for Transformers.**

*Qi Pang, Jinhao Zhu, Helen Möllering, Wenting Zheng, and Thomas Schneider.*

To appear, IEEE S&P 2024

#### **Communication-efficient, Fault Tolerant PIR over Erasure Coded Storage.**

*Andrew Park, Trevor Leong, Francisco Maturana, Wenting Zheng, Rashmi Vinayak.*

To appear, IEEE S&P 2024

#### **PIANO: Extremely Simple, Single-Server PIR with Sublinear Server Computation.**

*Mingxun Zhou, Andrew Park, Elaine Shi, Wenting Zheng.*

To appear, IEEE S&P 2024

**Secure Federated Correlation Test and Entropy Estimation.**

*Qi Pang\*, Lun Wang\*, Shuai Wang, Wenting Zheng, Dawn Song.*  
ICML 2023

**ADI: Adversarial Dominating Inputs in Vertical Federated Learning Systems.**

*Qi Pang, Yuanyuan Yuan, Shuai Wang, Wenting Zheng*  
IEEE S&P 2023

**Silph: A Framework for Scalable and Accurate Generation of Hybrid MPC Protocols.**

*Edward Chen, Jinhao Zhu, Alex Ozdemir, Fraser Brown, Riad Wahby, Wenting Zheng.*  
IEEE S&P 2023

**CostCO: An Automatic Cost Modeling Framework for Secure Multi-Party Computation.**

*Vivian Fang, Lloyd Brown, William Lin, Wenting Zheng, Aurojit Panda, Raluca Ada Popa.*  
IEEE Euro S&P 2022

**Cerebro: A Platform for Multi-Party Cryptographic Collaborative Learning.**

*Wenting Zheng, Ryan Deng, Weikeng Chen, Raluca Ada Popa, Aurojit Panda, Ion Stoica.*  
USENIX Security 2021

**Delphi: A Cryptographic Inference Service for Neural Networks.**

*Pratyush Mishra, Ryan Lehmkuhl, Akshayaram Srinivasan, Wenting Zheng, Raluca Ada Popa.*  
USENIX Security 2020

**Helen: Maliciously Secure Cooperative Learning for Linear Models.**

*Wenting Zheng, Raluca Ada Popa, Joseph E. Gonzalez, Ion Stoica.*  
IEEE S&P 2019

**DIZK: Distributing Zero Knowledge Proof Systems.**

*Howard Wu, Wenting Zheng, Alessandro Chiesa, Raluca Ada Popa, Ion Stoica.*  
USENIX Security 2018

**High Accuracy Approximation of Secure Multiparty Neural Network Training.**

*Daniel Ho, Xin Wang, Wenting Zheng, Joseph Gonzalez, Raluca Ada Popa, and Ion Stoica.*  
AISys 2017

**MiniCrypt: Reconciling Encryption and Compression for Big Data Stores.**

*Wenting Zheng, Frank Li, Raluca Ada Popa, Ion Stoica, Rachit Agarwal.*  
EuroSys 2017

**Opaque: An Oblivious and Encrypted Distributed Analytics Platform.**

*Wenting Zheng, Ankur Dave, Jethro Beekman, Raluca Ada Popa, Joseph Gonzalez, Ion Stoica.*  
NSDI 2017

**SCL: Simplifying Distributed SDN Control Planes.**

*Aurojit Panda, Wenting Zheng, Xiaohu Hu, Arvind Krishnamurthy, Scott Shenker.*  
NSDI 2017

### **Fast Databases with Fast Durability and Recovery through Multicore Parallelism.**

*Wenting Zheng, Stephen Tu, Eddie Kohler, Barbara Liskov.*  
OSDI 2014

### **Speedy Transactions in Multicore In-Memory Databases.**

*Stephen Tu, Wenting Zheng, Eddie Kohler, Barbara Liskov, Samuel Madden.*  
SOSP 2013

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## Theses

### **Sharing without Showing: Building Secure Collaborative Systems.**

*Wenting Zheng.*  
Ph.D. dissertation, 2020

### **Fast Checkpoint and Recovery Techniques for an In-Memory Database.**

*Wenting Zheng.*  
M.Eng. thesis, 2014

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## Selected Talks

- November 2023 **Sharing without Showing: Building Secure Systems by Co-designing Systems and Cryptography.**  
Google
- March 2022 **Sharing without Showing: Building Systems for Secure Collaborative Computation.**  
Samsung Forum
- August 2019 **Helen: Maliciously Secure Cooperative Learning for Linear Models.**  
PPML Workshop, CRYPTO
- May 2019 **Sharing without Showing: Enabling Secure Collaborative Learning via Cryptography.**  
Workshop on Inference for Multi-Messenger Astrophysics
- May 2019 **Helen: Maliciously Secure Cooperative Learning for Linear Models.**  
IEEE S&P 2019
- May 2019 **Helen: Maliciously Secure Multi-Party Training.**  
Bay Area Crypto Day
- April 2018 **Opaque: An Oblivious and Encrypted Distributed Analytics Platform.**  
Stanford University Networking Seminar
- October 2017 **Opaque: An Oblivious and Encrypted Distributed Analytics Platform.**  
Yahoo Research
- August 2017 **Opaque: An Oblivious and Encrypted Distributed Analytics Platform.**  
Intel-NSF CPS Security Workshop
- May 2017 **MiniCrypt: Reconciling Encryption and Compression for Big Data Stores.**  
EuroSys 2017
- April 2017 **Opaque: An Oblivious and Encrypted Distributed Analytics Platform.**  
NSDI 2017

- February 2017 **Opaque: A Data Analytics Platform with Strong Security.**  
Spark Summit
- October 2014 **Fast Databases with Fast Durability and Recovery Through Multicore Parallelism.**  
AMP Lab Cloud Seminar
- October 2014 **Fast Databases with Fast Durability and Recovery Through Multicore Parallelism.**  
OSDI 2014

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## Professional activities

- PC member**, *SOSP 2024*.
- PC member**, *NSDI 2024*.
- PC member**, *CCS 2023*.
- PC member**, *USENIX Security 2022*.
- PC member**, *SysTEX 2022*.
- PC member**, *NSDI 2022*.
- PC member**, *OSDI 2021*.
- PC member**, *MLSys 2021*.
- External reviewer**, *HotNets 2019*.
- External reviewer**, *PoPETS 2019*.