

# ZEYU DING

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## EMPLOYMENT

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<b>Binghamton University</b>	Binghamton, NY
• <i>Assistant Professor</i> , Department of Computer Science	Aug 2022 - present
• <i>Assistant Professor</i> , Department of Mathematics and Statistics (Courtesy)	May 2023 - present
<b>Meta, Inc.</b>	Menlo Park, CA
• <i>Research Scientist</i> , Core Data Science	May 2021 - Dec 2021
<b>Baidu USA, Inc.</b>	Sunnyvale, CA
• <i>Research Scientist</i> , Baidu USA Security X-Lab	May 2020 - Aug 2020

## EDUCATION

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<b>Ph.D. in Computer Science</b>	Penn State University, State College, PA
<b>Ph.D. in Mathematics</b>	Binghamton University, Vestal, NY
<b>B.S. in Mathematics</b>	Zhejiang University, Hangzhou, China

## HONORS & AWARDS

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- **Outstanding Paper Award**, ACM Conference on Computer and Communications Security, 2018
- **Research Assistant Award**, Penn State University, 2019
- **The Caspar Bowden PET Award Runner-Up**, 2019
- **Best Paper Award Runner-Up**, ACM Conference on Computer and Communications Security, 2020
- **Teaching Assistant Award**, Penn State University, 2021
- **Best Paper Award Runner-Up**, ACM Conference on Computer and Communications Security, 2021

## GRANTS

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- PI, Collaborative Research:SaTC:CORE:Medium: Differentially Private SQL with flexible privacy modeling, machine-checked system design and accuracy optimization. \$1,200,000 (my share: \$335,584). 5/1/2024 – 4/30/2028. NSF Award # 2317233.

## SELECTED PUBLICATIONS

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- [1] Guanlin He, Yingtai Xiao, Jiamu Bai, Xin Gu, Zeyu Ding, Wenpeng Yin, and Daniel Kifer. Accurate and scalable matrix mechanisms via divide and conquer, 2026
- [2] Andrew Cascio, KinChin Tong, Daniel Kifer, Zeyu Ding, and Danfeng Zhang. Dp4sql: Differentially private sql with flexible privacy policies. ACM CCS, 2026
- [3] Guanlin He, Yingtai Xiao, Levent Toksoz, Zeyu Ding, Danfeng Zhang, and Daniel Kifer. Residualplanner+: a scalable matrix mechanism for marginals and beyond. *The VLDB Journal*, 2026
- [4] Vrushket More, Lyra Lu, Zeyu Ding, Zhaohan Xi, Seth Mizia, and Nancy L. Guo. Theramind: a multi-llm ensemble for accelerating drug repurposing in lung cancer via case report mining. *npj Precision Oncology*, 10(1):95, Jan 2026
- [5] Zeyu Ding, John Durrell, Daniel Kifer, Prottay Protivash, Guanhong Wang, Yuxin Wang, Yingtai Xiao, and Danfeng Zhang. Avoiding floating-point side channels in the report noisy max with gap mechanism. *Journal of Privacy and Confidentiality*, 15(3), Dec. 2025

- [6] Prem Bhajaj, Saiprakash Nalubolu, Bhargavram Gurrarn, Mansi Srinivas, Rakesh Choudhary, Weiyang Dai, Ling Wang, Tamara Jamaspishvili, Zeyu Ding, and Nancy L Guo. ClinSegAI: A post-processing framework for superior histopathology segmentation accuracy, radiomics feature preservation, and quantitative analysis. *Comput Biol Med*, 199:111298, November 2025
- [7] Prottay Protivash, John Durrell, Zeyu Ding, Danfeng Zhang, and Daniel Kifer. Reconstruction attacks on aggressive relaxations of differential privacy. *The Journal of Privacy and Confidentiality*, 2024
- [8] Zeyu Ding, Yuxin Wang, Yingtai Xiao, Guan hong Wang, Danfeng Zhang and Daniel Kifer, “Free Gap Estimates from the Exponential Mechanism, Sparse Vector, Noisy Max and Related Algorithms,” *The International Journal on Very Large Data Bases*, 2022
- [9] Yuxin Wang, Zeyu Ding, Yingtai Xiao, Daniel Kifer and Danfeng Zhang, “DPGen: Automated Program Synthesis for Differential Privacy,” *Proc. of ACM Conference on Computer and Communications Security (CCS)*, **Best Paper Award (Runner-Up)**, 2021
- [10] Zeyu Ding, Daniel Kifer, Sayed M. Saghaian N. E., Thomas Steinke, Yuxin Wang, Yingtai Xiao and Danfeng Zhang, “The Permute-and-Flip Mechanism is Identical to Report-Noisy-Max with Exponential Noise,” *arXiv:2105.07260* , 2021
- [11] Yingtai Xiao, Zeyu Ding, Yuxin Wang, Danfeng Zhang and Daniel Kifer, “Optimizing Fitness-For-Use of Differentially Private Linear Queries,” *Proc. of 47th International Conference on Very Large Data Bases (PVLDB)*, 2021
- [12] Zeyu Ding and Xiao Xiao, “Dimensions of Automorphism Group Schemes of Finite Level Truncations of  $F$ -cyclic  $F$ -crystals,” *Transactions of American Mathematical Society*, 2021
- [13] Yuxin Wang, Zeyu Ding, Daniel Kifer and Danfeng Zhang, “CheckDP: An Automated and Integrated Approach for Proving Differential Privacy or Finding Precise Counterexamples,” *Proc. of ACM Conference on Computer and Communications Security (CCS)*, **Best Paper Award (Runner-Up)**, 2020
- [14] Zeyu Ding, Yuxin Wang, Danfeng Zhang and Daniel Kifer, “Free Gap Information from the Differentially Private Sparse Vector and Noisy Max Mechanisms,” *Proc. of 46th International Conference on Very Large Data Bases (PVLDB)*, 2020
- [15] Yuxin Wang, Zeyu Ding, Guan hong Wang, Daniel Kifer and Danfeng Zhang, “Proving Differential Privacy via Shadow Execution,” *The 40th ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, 2019
- [16] Zeyu Ding, Yuxin Wang, Guan hong Wang, Danfeng Zhang and Daniel Kifer, “Detecting Violations of Differential Privacy,” *Proc. of ACM Conference on Computer and Communications Security (CCS)*, **Outstanding Paper Award**, 2018

## TEACHING EXPERIENCE

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### Binghamton University

- CS471: Programming Languages, Spring 2023/2024/2025/2026
- CS561: Topics in Data Privacy, Fall 2022/2023/2024/2025
- CS571: Programming Languages, Spring 2026
- MATH221: Calculus I, Spring 2007/2011/2013, Fall 2008/2012, Summer 2009/2010
- MATH222: Calculus II, Spring 2008/2012/2013/2014
- MATH323: Calculus III, Fall 2011
- MATH304: Linear Algebra, Spring 2009/2010/2015, Fall 2009/2015
- MATH314: Discrete Math, Fall 2014, Spring 2015
- MATH330: Number Theory, Fall 2014

- MATH371: Ordinary Differential Equations, Spring 2014, Summer 2014, Winter 2015

### **Penn State University**

- CMPSC461: Programming Language Concepts (Head TA), Fall 2020, Spring 2021

### **PROFESSIONAL SERVICES**

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#### Grant Review Panel

- DOE Advancements in Artificial Intelligence for Science, 2024

#### Program Committee

- ACM Conference on Computer and Communications Security (CCS), 2022
- ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL) SRC, 2023
- Theory and Practice of Differential Privacy (TPDP) Workshop, 2024, 2026
- IEEE European Symposium on Security and Privacy (EuroS&P), 2026
- 43rd IEEE International Conference on Data Engineering (ICDE), 2027
- The 27th Privacy Enhancing Technologies Symposium (PETS), 2027

#### Reviewer

- ACM Conference on Computer and Communications Security (CCS), 2019
- ACM/IEEE Symposium on Logic in Computer Science (LICS), 2021
- Conference on Neural Information Processing Systems (NeurIPS), 2021
- IEEE Transactions on Dependable and Secure Computing (TDSC), 2021
- The International Conference on Learning Representations (ICLR), 2022
- The 39th International Conference on Machine Learning (ICML), 2022
- IEEE Transactions on Parallel and Distributed Systems (TPDS), 2022
- Algorithmica (ALGO), 2022
- Journal of Privacy and Confidentiality (JPC), 2023, 2024, 2025, 2026
- Theory and Practice of Differential Privacy (TPDP), 2024, 2026
- International Conference on Very Large Data Bases (VLDB), 2026

#### Department/College/University Committee

- CS Tenure-Track Faculty Search Committee, 2022-23, 2023-24
- Graduate Application Review Committee, 2023-24, 2024-25