# Jordan A. Awan jawan@purdue.edu

Google Scholar

#### RESEARCH INTERESTS

### **Data Privacy**

Theoretical and applied problems in differential privacy; Statistical inference on privatized data; Theoretical guarantees for synthetic data.

#### **Statistics**

Simulation-based inference; Computational statistics, Functional data analysis, Causal inference.

### Applied Work

Analysis of physiological signals; Acoustic Analyses; Pitch Estimation.

### **EDUCATION**

### Penn State University, University Park PA

August 2016-May 2020

Doctor of Philosophy, Statistics.

Advised by Aleksandra Slavković and Matthew Reimherr.

### Brandeis University, Waltham MA

Fall 2014-Spring 2016

Master of Arts, Mathematics.

### Clarion University of Pennsylvania, Clarion PA

Fall 2011-Spring 2014

Bachelor of Science, Mathematics.

Minors: Computer Science, Honors.

### PROFESSIONAL CAREER

### Purdue University, Department of Statistics, West Lafayette IN

August 2020-present

Assistant Professor.

### MITRE

June 2021-present

Differential privacy consultant for MITRE and Census Disclosure Avoidance System team.

### Harvard University, Center for Research on Computation and Society

### (CRCS), Cambridge MA

**Summer 2018** 

Visiting Graduate Student. Advised by Salil Vadhan.

### Penn State University, Department of Statistics, University Park PA Summer 2017-Spring 2020

Research Assistant.

Teaching Assistant (Spring 2019). STAT 401.

### Lafayette College, Department of Mathematics, Easton PA

**Summer 2013** 

REU participant.

### **HONORS & AWARDS**

### ASHA Convention Visionary Session, American Speech and Hearing Association

Fall 2024

Presentation "Estimating Transglottal Airflow Using a Vortex Whistle System and the Phonation Quotient" selected as Visionary

2024 College of Science Recognition Award, Purdue University Recognized as the recipient of high profile projects	Spring 2024
Faculty/Staff Recognition Award, Purdue Statistics	Spring 2024
2nd place Best Poster Award, Statistics and Optimization in Data Sc University	ience Workshop, Purdue Summer 2023
Outstanding Poster Award, Midwest Machine Learning Symposium	Spring 2023
Regina and Norman Carroll Research Award for 2022, Purdue Statistics Recognized for distinctive contributions to statistical science	Spring 2023
Journal of Voice 2022 Best Paper Award  Best Paper in the Speech-Language Pathology category	Spring 2023
The Voice Foundation Best Poster Award	Summer 2021
Penn State 2020 Alumni Dissertation Award	Spring 2020
PSU Statistics 50 <sup>th</sup> Anniversary Best Poster Award	Spring 2018
August and Ruth Homeyer Graduate Fellowship, PSU	Fall 2017-Spring 2018
Best Performance on Applied Qualifying Exam, PSU Statistics	Summer 2017
Stephen B. Brumbach Distinguished Graduate Fellowship, PSU	Fall 2016-Spring 2017
GAANN Fellowship	Fall 2014-Summer 2016
MAA Outstanding Student Poster Award	Winter 2014
Clarion University France-Allison Presentation Award	Fall 2013
MAA Outstanding Student Presentation Award	Summer 2013
Board of Governors Academic Tuition Scholarship	Fall 2011-Spring 2014

### SUBMITTED PAPERS & PREPRINTS

- 1. Ohnishi, Y., Awan, J. "Locally Private Causal Inference for Randomized Experiments." arXiv:2301.01616.
- 2. Wang, Z., Cheng, G., **Awan**, **J.** "Differentially Private Bootstrap: New Privacy Analysis and Inference Strategies." arXiv:2210.06140.
- 3. Awan, J., Wang, Y. "Differentially Private Kolmogorov-Smirnov-Type Tests." arXiv:2208.06236.
- 4. Awan, J., Barrientos, A. F., Ju, N. "Statistical Inference for Privatized Data with Unknown Sample Size." arXiv:2406.06231.
- Awan, J., Edwards, A., Bartholomew, P., Sillers, A. "Best Linear Unbiased Estimate from Privatized Histograms." arXiv:2409.04387.
- 6. Ohnishi, Y., Awan, J. "Differentially Private Covariate Balancing Causal Inference." arXiv:2410.14789.
- 7. Cho, Y., Awan, J. "Formal Privacy Guarantees with Invariant Statistics." arXiv:2410.17468.
- 8. Eng, K., Awan, J., Ju, N., Rao, V., Gong, R. "dapper: Data Augmentation for Private Posterior Estimation in R."
- 9. Awan, S., Awan, J. "Comparison of Methods of Eliciting Vital Capacity: Forced vs. Slow Vital Capacity."

### REFEREED PUBLICATIONS

- 1. Awan, J., Cai, Z. (forthcoming) "One Step to Efficient Synthetic Data." Statistica Sinica. Accepted.
- 2. Awan, J., Wang, Z. (2024) "Simulation-based Finite-sample Inference for Privatized Data." Journal of the American Statistical Association. Available online.
- 3. **Awan, J.**, Ramasethu, A. (2024) "Optimizing Noise for f-Differential Privacy via Anti-Concentration and Stochastic Dominance. *Journal of Machine Learning Research*. Volume 25, Number 351, Pages 1-32.

- 4. Kang, T., Kim, S., Sohn, J., **Awan, J.** (2024) "Differentially Private Topological Data Analysis." *Journal of Machine Learning Research*. Volume 25, No. 189, Pages 1-42.
- 5. Awan, J., Bernardi, O. (2024) "Tutte Polynomials for Regular Oriented Matroids." Discrete Mathematics. Volume 347, Number 1.
- Awan, J., Vadhan, S. (2023) "Canonical Noise Distributions and Private Hypothesis Tests." Annals of Statistics. Volume 51, Number 2, Pages 547-572.
- 7. Awan, J., Rao, V. (2023) "Privacy-Aware Rejection Sampling." Journal of Machine Learning Research. Volume 24, No. 74, Pages 1-32.
- 8. Awan, S., Shaikh, M., **Awan, J.,** Abdalla, I., Lim, K., Misono, S., (2023) "Smartphone Recordings are Comparable to 'Gold Standard' Recordings for Acoustic Measurements of Voice." *Journal of Voice*. Available online.
- 9. Feinstein, H., Daşdöğen, Ü., **Awan, J.**, Awan, S., Verdolini Abbott, K. (2023) "Comparative Analysis of Two Methods of Perceptual Voice Assessment." *Journal of Voice*. Available online.
- Awan, J., Dong, J. (2022) "Log-Concave and Multivariate Canonical Noise Distributions for Differential Privacy." Advances in Neural Information Processing Systems 36, 34229-34240.
- 11. Ju, N., Awan, J., Gong, R., Rao, V. (2022) "Data Augmentation MCMC for Bayesian Inference from Privatized Data." Advances in Neural Information Processing Systems 36, 12732-12743.
- 12. **Awan, J.**, Frechette, C., Li, Y., McMahon, E. (2022) "Demicaps in AG(4,3) and their Relation to Maximal Cap Partitions." Graphs and Combinatorics. Volume 83, No. 193.
- 13. Li, A., Chen, J., Awan, J., Eddins, D., Awan, S. (2022) "Performance Analysis and Parametric Study of Vortex Whistle." Proceedings of the ASME 2022 Fluids Engineering Division Summer Meeting. Volume 1: Fluid Applications and Systems (FASTC); Fluid Measurement and Instrumentation (FMITC); Fluid Mechanics (FMTC). Toronto, Ontario, Canada. August 3–5, 2022. V001T01A018. ASME.
- 14. Li, A., Awan, J., Chen, J., Eddins, D., Awan, S. (2022) "Enhancing the Vortex Whistle for Measures of Respiratory Capacity via CFD and CAA." *Journal of Biomechanical Engineering*. Volume 144, Issue 11.
- 15. Awan, S., **Awan**, **J.** (2022) "Use of a Vortex Whistle for Measures of Respiratory Capacity." *Journal of Voice*. Volume 36, Issue 5, Pages 630-636. (**Best Paper Award**)
- 16. Awan, J., Slavković, A. (2021) "Structure and Sensitivity in Differential Privacy: Comparing K-Norm Mechanisms." Journal of the American Statistical Association. Volume 116, Number 534, 935-954.
- 17. Awan, J., Slavković, A. (2020) "Differentially Private Inference for Binomial Data." Journal of Privacy and Confidentiality. Volume 10, No. 1.
- 18. Awan, J., Bernardi, O. (2020) "Tutte Polynomials for Directed Graphs." Journal of Combinatorial Theory, Series B. Volume 140, 192-247.
- 19. Awan, S., **Awan**, **J.** (2020) "A Two-Stage Cepstral Analysis Procedure for the Classification of Rough Voices." *Journal of Voice*. Volume 34, Issue 1, 9-19.
- Reimherr, M., Awan, J. (2019) "KNG: The K-Norm Gradient Mechanism." Advances in Neural Information Processing Systems 33. 10208-10219.
- 21. Reimherr, M., Awan, J. (2019) "Elliptical Perturbations for Differential Privacy." Advances in Neural Information Processing Systems 33. 10185-10196.
- Awan, J., Kenney, A., Reimherr, M., Slavković A. (2019) "Benefits and Pitfalls of the Exponential Mechanism with Applications to Hilbert Spaces and Functional PCA." Proceedings of the 36th International Conference on Machine Learning, 97:374-384.
- 23. Awan, J., Slavković, A. (2018) "Differentially Private Uniformly Most Powerful Tests for Binomial Data." Advances in Neural Information Processing Systems 32, 4208-4218.
- Gaskill, C., Awan, J., Watts, C., Awan, S. (2016) "Acoustic and Perceptual Classification of Within-sample Normal, Intermittently Dysphonic, and Consistently Dysphonic Voice Types." Journal of Voice, Volume 31, Issue 2, Pages 218-228.
- 25. Awan, S., Awan, J. (2013) "The Effect of Gender on Measures of Electroglottographic Contact Quotient." Journal of Voice, Volume 27, Issue 4, 433-440.

1. Awan, J., Gong, R. (2024). "Statistical Inference and Differential Privacy." In Drechsler, J., Kifer, D., Reiter, J., & Slavković, A. (Eds.), Handbook of Sharing Confidential Data: Differential Privacy, Secure Multiparty Computation, and Synthetic Data. Chapman and Hall/CRC.

### OTHER PUBLICATIONS

- 1. Awan, J. (2024). "Here's How Machine Learning can Violate your Privacy." The Conversation. May 23, 2024.
- 2. Habib, S., Pires, B., Benedetto, G., Rodriguez, R., **Awan, J.**, Stanley, J., Totty, E., Germinario, G., & Stevenson, R. (2023). "Automated Synthetic Data Validation: Applying Noise Injection for Disclosure Avoidance." Joint Statistical Meetings (JSM), Toronto, Canada.
- 3. Awan, J., Reimherr, M., Slavković, A. (2020). "Formal Privacy for Modern Nonparametric Statistics." CHANCE 33, No. 4. 43-49.
- 4. Awan, S., Awan, J., Watts, C., S. Gaskill, C. (2018). "Response to Aichinger and Kubin Re: Letter to the Editor "Acoustic and Perceptual Classification of Within-Sample Normal, Intermittently Dysphonic, and Consistently Dysphonic Voice Types"." *Journal of Voice*. Issue 32, No. 3, 383-384.

#### GRANTS

## NIH R01: Vital Capacity & Airflow Measurement for Voice Evaluation: A Vortex Whistle System, MPI 2023-2028

One of 4 MPIs, along with Dr. Shaheen Awan, Dr. Jun Chen, and Dr.

Amanda Gillespie. \$3,129,418 for 5 years.

Directly responsible for  $\approx $450,000$ .

### NSF SES: Simulation-based Inference for Differential Privacy, PI

2022-2025

Principal investigator, along with Co-PI Dr. Roberto Molinari. \$450,000 for 3 years.

### RESEARCH PRESENTATIONS

### Joint Statistical Meetings, Portland, OR

August 2024

Panel: Evaluating Statistical Disclosure Control Techniques based on the Risk and Utility of Privacy-Protected Data

### Auburn University, Department of Mathematics and Statistics, Auburn, AL

April 2024

Simulation-based, Finite-sample Inference for Privatized Data

 $25^{th}$  Annual CERIAS Security Symposium, Purdue University, West Lafayette, IN

April 2024

Valid Statistical Inference on Privatized Data

### Joint Statistical Meetings, Toronto Canada

August 2023

Simulation-based Inference for Privatized Data

### Air Force Institute of Technology, Department of Mathematics and Statistics,

### Wright-Patterson Air Force Base, OH

January 2023

Bayesian Inference on Privatized Data

### Auburn University, Statistics and Data Science Seminar, Online

September 2022

Bayesian Inference from Privatized Data

### Statistical Learning and Differential Privacy, Bath U.K. (online)

September 2022

Data Augmentation MCMC for Bayesian Inference from Privatized Data

Joint Statistical Meetings, Washington D.C.

August 2022

Posterior Inference on Privatized Data via Data Augmentation MCMC	
Workshop on the Analysis of Census Noisy Measurement Files and Differential Privacy, Rutgers University  Posterior Inference on Privatized Data via Data Augmentation MCMC	April 2022
Computational & Methodological Statistics Meeting, Online Canonical noise distributions and private hypothesis tests	December 2021
Privacy in Machine Learning, Virtual NeurIPS Workshop Canonical noise distributions and private hypothesis tests	December 2021
Privacy in Machine Learning, Virtual NeurIPS Workshop Privacy-aware rejection sampling	December 2021
Privacy Preserving Machine Learning, Virtual ACM CCS Workshop Canonical noise and private hypothesis tests	November 2021
Michigan State University, Department of Statistics, Online Canonical noise and private hypothesis tests	November 2021
Invited Panel: Virtual Symposium on Data Privacy, ASA Nevada Chapter Canonical noise distributions and private hypothesis tests	September 2021
2021 Joint Statistical Meetings, Online  Approximate co-sufficient sampling with applications to goodness of fit tests and synthetic data	August 2021
2020 Joint Statistical Meetings, Online  KNG: The K-norm gradient mechanism	August 2020
University of Wisconsin-Madison, Department of Statistics, Madison WI Differentially private inference for binomial data	February 2020
Lafayette College, Department of Mathematics, Easton PA Differentially private inference for binomial data	February 2020
George Mason University, Department of Statistics, Fairfax VA  Differentially private inference for binomial data	February 2020
Bucknell University, Department of Mathematics, Lewisburg PA Differentially private inference for binomial data	Spring 2020
Purdue University, Department of Statistics, West Lafayette IN  Differentially private inference for binomial data	Spring 2020
2019 Joint Statistical Meetings, Denver CO  Benefits and pitfalls of the exponential mechanism	Summer 2019
36th International Conference Machine Learning, Long Beach CA Benefits and pitfalls of the exponential mechanism	Summer 2019
Simons Institute for the Theory of Computing, Berkeley CA Differentially private UMP hypothesis tests for Bernouilli data	April 2019
Computational & Methodological Statistics Meeting in Pisa, Italy Differentially private UMP hypothesis tests for Bernouilli data	December 2018
2018 Joint Statistical Meetings, Vancouver Canada Optimizing finite sample performance under differential privacy	July 2018

June 2018
May 2018
ruary 2018
April 2016
April 2016
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Fall 2014
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inter 2014
Fall 2013
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LA (online)
LA (online)
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November 2021

Privacy Preserving Machine Learning, Virtual ACM CCS Workshop

Privacy-aware rejection sampling

Thirty-Third Conference on Neural Information Processing Systems, Vancouver Canada  Elliptical perturbations for differential privacy	December 2019
Thirty-Third Conference on Neural Information Processing Systems, Vancouver Canada $K$ -Norm gradient mechanism for private empirical risk minimization	December 2019
36th International Conference on Machine Learning, Long Beach CA Benefits and pitfalls of the exponential mechanism	Summer 2019
Thirty-second Conference on Neural Information Processing Systems, Montreal Canada  Differentially private uniformly most powerful tests for binomial data	December 2018
Theory and Practice of Differential Privacy in 25th ACM Conference on Computer and Communications Security, Toronto Canada  Differentially private uniformly most powerful tests for binomial data	October 2018
50 <sup>th</sup> Anniversary Conference at Penn State Department of Statistics, University Park PA  Optimizing finite sample performance under differential privacy	May 2018
Rao Prize Conference at Penn State, University Park PA  Maximum likelihood estimation with differential privacy	May 2017
Joint Math Meetings, Baltimore MD REU results on maximal caps and substructures in $AG(4,3)$	Winter 2014
OTHER PRESENTATIONS	
Lilly Purdue Statistics Seminar, Eli Lilly and Company, Indianapolis IN Statistical Inference with Differential Privacy	Spring 2024
	Spring 2024 Summer 2020
Statistical Inference with Differential Privacy  Open DP Community Workshop	
Statistical Inference with Differential Privacy  Open DP Community Workshop  Lightning talk on Binomial inference under differential privacy  Penn State Statistics Graduate Student Association Workshop	Summer 2020
Open DP Community Workshop Lightning talk on Binomial inference under differential privacy  Penn State Statistics Graduate Student Association Workshop Introduction to differential privacy  Center for Research on Computation and Society, Harvard University	Summer 2020 Fall 2018
Open DP Community Workshop Lightning talk on Binomial inference under differential privacy  Penn State Statistics Graduate Student Association Workshop Introduction to differential privacy  Center for Research on Computation and Society, Harvard University Introduction to differential privacy  Penn State Statistics Graduate Student Association Workshop	Summer 2020 Fall 2018 Summer 2018
Open DP Community Workshop Lightning talk on Binomial inference under differential privacy  Penn State Statistics Graduate Student Association Workshop Introduction to differential privacy  Center for Research on Computation and Society, Harvard University Introduction to differential privacy  Penn State Statistics Graduate Student Association Workshop Introduction to differential privacy  Penn State Statistics Graduate Student Association Workshop Introduction to differential privacy  Penn State DS 300: Privacy and Security for Data Sciences	Summer 2020 Fall 2018 Summer 2018 Fall 2017
Open DP Community Workshop Lightning talk on Binomial inference under differential privacy  Penn State Statistics Graduate Student Association Workshop Introduction to differential privacy  Center for Research on Computation and Society, Harvard University Introduction to differential privacy  Penn State Statistics Graduate Student Association Workshop Introduction to differential privacy  Penn State DS 300: Privacy and Security for Data Sciences Introduction to differential privacy  Brandeis Mathematics Graduate Student Seminar	Summer 2020 Fall 2018 Summer 2018 Fall 2017
Open DP Community Workshop Lightning talk on Binomial inference under differential privacy  Penn State Statistics Graduate Student Association Workshop Introduction to differential privacy  Center for Research on Computation and Society, Harvard University Introduction to differential privacy  Penn State Statistics Graduate Student Association Workshop Introduction to differential privacy  Penn State DS 300: Privacy and Security for Data Sciences Introduction to differential privacy  Brandeis Mathematics Graduate Student Seminar A proof of the 5 color theorem  Brandeis Combinatorics Seminar	Summer 2020 Fall 2018 Summer 2018 Fall 2017 Fall 2017 Fall 2015

### Clarion University High School Mathematics Competition

Mental math algorithms with proofs and examples

Fall 2012

### Cumberland Valley Math Modeling Challenge at Shippensburg University

Fall 2011

A model to predict the economic impacts of different voting systems

### TEACHING EXPERIENCE

### Purdue University Department of Statistics, Instructor

Fall 2020-present

CS/STAT 242: Introduction to Data Science, Spring 2024

STAT 598: Differential Privacy, Fall 2022

MA/STAT 519: Probability Theory, Fall 2021, Spring 2023

STAT 692: Research Seminar, Fall 2021, Spring 2022

STAT 417: Statistical Theory, Fall 2020 (online), Fall 2022

### Pennsylvania State University Department of Statistics, Instructor

Spring 2019

Introduction to Probability and Statistics with R for Engineers

Brandeis University Department of Mathematics, Instructor Integral Calculus

Fall 2015, Spring 2016

Brandeis University Department of Mathematics, Grader

Multivariate Calculus, Linear Algebra

Fall 2014, Spring 2015

Brandeis University Department of Mathematics, Tutor

Pre-Calculus, Calculus I & II

Fall 2014, Spring 2015

Fall 2011-Spring 2014

Clarion University Department of Academic Enrichment, Tutor

Finite Mathematics, Pre-Calculus, Calculus I & II, Linear Algebra

### SOFTWARE DEVELOPMENT

### dapper: Data Augmentation for Private Posterior Estimation in R

Summer 2024

R package implementation of the method in "Data Augmentation MCMC for Bayesian Inference from Privatized Data." In collaboration with Kevin Eng and Drs. Ruobin Gong, Niangiao Ju, and Vinayak Rao. Available on CRAN.

### binomialDP: Differentially Private Inference for Binomial Data

**Summer 2020** 

R package implementation of UMP tests and UMA confidence intervals for Binomial test statistics under differential privacy. In collaboration with Tran Tran and Dr. Aleksandra Slavković.

### **SERVICE**

### Journal Referee

Journal of the American Statistical Association, Neural Information Processing Systems, International Conference on Machine Learning, Journal of Privacy and Confidentiality, Journal of the Royal Statistical Society Series B, Annals of Statistics, Journal of Computational and Graphical Statistics, Statistica Sinica, among others

### Session Organizer, Bayesian, Fiducial, & Frequentist Conference (BFF9)

Spring 2025

Organized a session on statistical inference on privatized data

### PhD Qualifying Exam Committee, Purdue University Statistics

Spring 2025

Wrote exam questions and helped to administer the exam

Faculty Mentory, Science Scholars Program, Purdue University

Fall 2024-present

Mentored an undergraduate student from an under-represented minority background

Program Committee, AAAI

Fall 2024

Reviewed articles for the conference

Program Committee, Fairness, Accountability, and Transparency (FAccT)

Spring 2023

Reviewed submissions for the workshop

Colloquium Chair, Purdue University Statistics

Fall 2021-Spring 2022

Organized the Purdue Department of Statistics seminar, invited speakers

Diversity and Inclusion Committee, Purdue University Statistics

2021-present

Program Committee, NeurIPS Workshop: Privacy and Machine Learning

Fall 2021

Reviewed submissions and helped organize the workshop

Program Committee, CCS Workshop: Privacy Preserving Machine Learning

Fall 2021

Reviewed submissions and helped organize the workshop

2021-present

Program Committee Member, Theory and Practice of Differential Privacy

Spring 2021 and

Summer 2024

Reviewed submissions and helped organize the workshop

Distinguished Theme Seminar Series, Purdue University

Graduate Student Admissions, Purdue University Statistics

Fall 2020-Fall 2023

Member of the organizing committee (Spring 2021-Fall 2021)

Seminar Moderator (Fall 2020, Fall 2021)

Hiring Committee, Purdue University

Fall 2020 - present

Assistant Professor Search; Escort for interviewees (Fall 2020-Spring 2021)

Assistant and Associate Professor Search (Fall 2021-Spring 2022)

Dream Hire Search (Fall 2023)

Assistant Professor Search (Fall 2024-Spring 2025)

### POSTDOCTORAL ADVISOR

Cesare Miglioli, Postdoctoral Researcher

Fall 2024-present

THESIS ADVISOR

Yu Wei Chen, Ph.D. Student

Spring 2024-present

Young Hyun Cho, Ph.D. Student

Spring 2023-present

Co-advised by Will Wei Sun

Yuki Ohnishi, Ph.D. Student

Summer 2022-Spring 2023

Co-advised by Arman Sabbaghi

Zhanyu Wang, Ph.D. Student

Fall 2021-Fall 2023

Co-advised by Guang Cheng (UCLA)

OTHER SUPERVISED STUDENTS

Arin Chang, Ph.D. Student

Fall 2024-present

Indirect inference and parametric bootstrap for privatized data

Leo Navarro, Undergraduate Student

Summer 2024-present

Optimize Bayesian inference on privatized data

Kefan Gu, Undergraduate Student

Summer 2024-Fall 2024

Optimize Bayesian inference on privatized data

Pranav Bhakti, Undergraduate Student

Spring 2024-present

Simulations for Bayesian inference on privatized data

Xinlong Du, M.S. Student

Spring 2024-present

R Package development for simulation-based inference

Samuel Forfang, Undergraduate Student

Spring 2024-present

R Package development for simulation-based inference

Aidan Davis, Undergraduate Student

Spring 2024

R Package development for simulation-based inference

Andrew Liu, M.S. Student

Fall 2023-present

Optimize the subsample and aggregate method for confidence intervals

Aishwarya Ramasethu, M.S. Student

Fall 2022-Spring 20234

Research discrete canonical noise distributions and implement binomial DP in  ${\it OpenDP}$ 

Yu-Ju Ku, M.S. Student

Summer 2022-Spring 2023

Implement binomialDP in OpenDP

Burla Ondes, Ph.D. Student in I.E.

**Summer 2022** 

Investigated the EM algorithm to analyze privatized data

Taegyu Kang, PhD Student

Spring 2022-Summer 2024

Differentially private topological data analysis (group project)

Sehwan Kim, PhD Student

Spring 2022-Fall 2023

Differentially private topological data analysis (group project)

Formalizing semi-privacy (group project)

Jinwon Sohn, PhD Student

Spring 2022-Summer 2024

Differentially private topological data analysis (group project)

Yue Wang, Undergraduate Student

Fall 2021-Summer 2022

Simulation study to compare differentially private hypothesis tests

Vishnu Suresh, M.S. Student

Spring 2021-Summer 2021

Exploring research topics in differential privacy

Jacob Moore, Undergraduate Student

Spring 2021-Summer 2021

Developing an R package for approximate conditional sampling

PHD COMMITTEE

Hyunwoo Chung, Ph.D. Student in Statistics

Spring 2024-present

Advised by Fei Xue

Qian Zhang, Ph.D. Student in Statistics

Fall 2022-present

Advised by Faming Liang

Yi Chu, Ph.D. Student in Statistics

Advised by Raghu Pasupathy

Rajdeep Haldar, Ph.D. Student in Statistics Spring 2022-present

Summer 2022-present

Advised by Qifan Song

Jiajun Liang, Ph.D. Student in Statistics Spring 2022-Fall 2023

Advised by Qifan Song

Xinyi Pei, Ph.D. Student in Statistics Spring 2021-present

Advised by Vinayak Rao

### MS COMMITTEE

Andrew Liu, M.S. (chair) Fall 2023-present

Ian Hunter, M.S. Spring 2023-present

Nicholas Rosenorn, M.S. (CS & Statistics) Spring 2023-present

Madison Dunn, M.S. (chair) Fall 2022-present

Aishwarya Ramasethu, M.S. Fall 2022-present

Chair of the MS advisory committee. Reading course in differential privacy

Burla Ondes, Ph.D. Student in Industrial Engineering, M.S. in Statistics Fall 2022-present

Yu-Ju Ku, M.S. (chair; CS & Statistics) Summer 2022-Spring 2023

Quisi Zhang, M.S. Spring 2022-present

Qi Zhong, M.S. Spring 2022-Fall 2022

Pratiksha Agrawal, M.S. Spring 2022-present

Yi-Min Yang, M.S. Fall 2021-Spring 2023

Vidhi Jain, M.S. Fall 2021-Fall 2022

Yu-Wen Wang, M.S. Fall 2021-Spring 2023

Yi-Ting Hung, M.S. Fall 2021-present

John Lambrecht, M.S. (chair)

Chair of the MS advisory committee. Reading course in differential privacy

Vishnu Suresh, M.S. Spring 2021-December 2022

### PROFESSIONAL ORGANIZATIONS

Center for Education and Research in Information Assurance and Security (CERIAS),

Purdue University Spring 2024-present

Affiliate faculty member

Privacy and Confidentiality Interest Group, American Statistical Association Fall 2023-present

Member

Regenstrief Center for Healthcare Engineering, Purdue University

Summer 2022-present

Associate member

American Statistical Association Summer 2017-present

Institute of Mathematical Statistics Summer 2017-present