

### Education

- Aug 2023 – **Ph.D., Computer Science**, *The University of Texas at Austin*, Austin, TX.  
Current Research Interest: Theory, specifically Mechanism Design, Fair Allocation, Algorithms under Uncertainty, Algorithmic Robust Statistics.
- Aug 2019 – **BSc, Computer Science**, *Purdue University*, West Lafayette, IN.  
May 2023 Coursework: Algorithm Design, Analysis, and Implementation. Randomized Algorithm. Algorithmic Economics. Intro to Artificial Intelligence. Machine Learning.

### Publications, Submissions, and Working Papers

#### In Conference Proceedings

- 2021 Zitao Li, **Trung Dang**, Tianhao Wang, and Ninghui Li. MGD: A Utility Metric for Private Data Publication. In *8th International Conference on Networking, Systems and Security*, 8th NSysS 2021, page 106–119, New York, NY, USA, 2021. Association for Computing Machinery.

#### Under Submissions

- 2023 **Trung Dang**, Jasper C.H. Lee, Maoyuan Song, and Paul Valiant. Neighborhood optimality in mean estimation: beyond worst-case, beyond sub-Gaussian, and beyond  $1 + \alpha$  moments. 2023. Under submission to *37th Conference on Neural Information Processing Systems, NeurIPS 2023*.
- 2023 Kamyar Azizzadenesheli, **Trung Dang**, Aranyak Mehta, Alexandros Psomas, and Qian Zhang. Reward Selection with Noisy Observations. 2023. Under submission to *ACM-SIAM Symposium on Discrete Algorithms, SODA 2024*.

#### Working Papers

- 2023 **Trung Dang**, Walt McKelvie, Paul Valiant, and Hongao Wang. Instance Optimal Identity Testing. 2023.
- 2023 **Trung Dang**, Owen Eckart, and Daniel Xie. A Simple and Optimal Mechanism for the Fair Allocation of Public Goods. 2023.

### Research Experience

- Oct 2021 – **Undergraduate Research Assistant**, *Department of Computer Science, Purdue University*, West Lafayette, IN.

I looked at various problems in algorithmic mechanism design, algorithms under uncertainty, fair allocation/division, and algorithmic robust statistics.

- Investigated simple and optimal algorithm for reward selection of i.i.d. boxes under noisy observations of their real values, as well as the problem's hardness result.
- Investigated “instance optimal” algorithm for mean estimation, which drove us to define a new optimality framework (neighborhood optimality).
- Investigating “instance optimal” algorithm for identity testing.
- Investigating a simple mechanism that achieves the optimal Nash Social Welfare approximation factor for fair allocation of public goods.

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## Work Experience

May 2022 – **Software Engineer Intern**, Meta, Seattle, WA.

- Aug 2022 ○ Performed migration of an important internal data streaming service to a new framework.
- Implemented additional features to integrate the streaming service more smoothly into the new framework.

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## Scholarships & Awards

2022 **Honorable mention** for the CRA Outstanding Undergraduate Researcher Awards 2023.

2022 **4th place among North American teams** at ICPC World Finals 2021.

2021 **First Prize Winner** of the NIST “A Better Meter Stick for Differential Privacy” competition.

2020, 2023 **Bronze Medal** at ICPC North American Championship 2020 and 2023.

2020 – 2023 **Qualified** for four consecutive ICPC World Finals.

2021 – 2022 Receiver of the **Jason Yu Memorial Scholarship**.

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## Computer skills

Programming Languages Python, C/C++, JavaScript/TypeScript, LaTeX, Java, Haskell

Web Technologies React/React Native

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## Position of Responsibility

2020 – 2023 **Head of Development of Competitive Programmers Union**, Purdue University.

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## Teaching Assistantship

Fall 2023 **C S 375: Compilers**, UT Austin.

Fall 2022 **CS381: Introduction to the Analysis of Algorithms**, Purdue University.

Fall 2019 – **CS390-CP2: Competitive Programming II**, Purdue University.

May 2023

Spring 2020 – **CS490-CP3: Competitive Programming III**, Purdue University.

May 2023

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## References

### Shuchi Chawla

Department of Computer Science  
The University of Texas at Austin  
2317 Speedway, Stop D9500  
Austin, TX 78712  
✉ shuchi@cs.utexas.edu

### Alexandros Psomas

Department of Computer Science  
Purdue University  
305 N. University Street  
West Lafayette, IN 47906  
✉ apsomas@cs.purdue.edu

### Paul Valiant

Department of Computer Science  
Purdue University  
305 N. University Street  
West Lafayette, IN 47906  
✉ pvaliant@gmail.com

### Ninghui Li

Department of Computer Science  
Purdue University  
305 N. University Street  
West Lafayette, IN 47906  
✉ ninghui@purdue.edu