

# Zhaoqi Li

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<https://zhaoqil.github.io>

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## RESEARCH INTEREST

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Multi-armed bandits, adaptive experimentation, policy learning, causal inference

## EDUCATION AND SKILLS

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### UNIVERSITY OF WASHINGTON, SEATTLE, WA

2018 – Present

Doctor of Philosophy in Statistics

### MACALESTER COLLEGE, SAINT PAUL, MN

2014 – 2018

Bachelor of Arts, Mathematics and Computer Science

*Summa Cum Laude*, GPA 3.98/4.00

*Department Honor prize*: Konhauser Achievement Prize, Wagon Competition Prize

### TECHNICAL SKILLS

*Programming Languages*: Proficient in Python, Java, R, Matlab, Mathematica. Familiar with C++

*Operating Systems*: Proficient in Linux

## PUBLICATIONS

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- **Z. Li**, A. Luedtke. Estimation of subsidiary performance metrics under an optimal policy for a primary performance metric. In Progress.
- **Z. Li**, K. Jamieson, L. Jain. Optimal Exploration is no harder than Thompson Sampling. Submitted to NeurIPS 2023.
- L. Jain, **Z. Li**, E. Loghmani, B. Mason, H. Yoganarasimhan. Effective Adaptive Exploration of Prices and Promotions in Choice-Based Demand Models. Submitted to *Marketing Science*.
- **Z. Li**, L. Ratliff, H. Nassif, K. Jamieson, L. Jain (2022). Instance-optimal PAC algorithms for contextual bandits. *Advances in Neural Information Processing Systems*, 35, 37590-37603.
- J. A. Rathe, E. A. Hemann, J. Eggenberger, **Z. Li**, M. L. Knoll, C. Stokes, T. Y. Hsiang, J. Netland, K. K. Takehara, M. Pepper, M. Gale Jr (2021). SARS-CoV-2 Serologic Assays in Control and Unknown Populations Demonstrate the Necessity of Virus Neutralization Testing. *The Journal of infectious diseases*, 223(7), 1120–1131.
- B. Anzis, S. Chen, Y. Gao, J. Kim, **Z. Li**, R. Patrias (2018). Jacobi-Trudi determinants over finite fields. *Annals of Combinatorics*, 22(3), 447-489.
- **Z. Li**, Y. Ma, C. Vajiac, Y. Zhang, “Exploration of Numerical Precision in Deep Neural Networks”, (2018), arXiv:1805.01078 [stat.ML].
- Y. Gao, **Z. Li**, T. Vuong, L. Yang (2018). Toric Mutations in the dP2 Quiver and Subgraphs of the dP2 Brane Tiling. *The Electronic Journal of Combinatorics*, 26(2), P2-19.

## TEACHING EXPERIENCE

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### TEACHING ASSISTANT

Department of Statistics, University of Washington

Department of Mathematics, Statistics, And Computer Science, Macalester College

Seattle, WA

September 2018 - Present

September 2015 - May 2018

- Teach weekly quiz section
- Prepare materials for lectures and test questions
- Hold weekly office hours and grade weekly homework
- Maintain webpage for course materials and help with in-class discussion
- Have assisted with more than 10 classes covering mathematics, statistics, and computer science (TODO: list classes)

## LEAD TUTOR

Seattle, WA

Department of Statistics, University of Washington

September 2020 - September 2021

- Assist Director of the Statistics Tutor and Study Center
- Point of contact for tutoring requests and forward requests to Statistics graduate students via statgrads listserve
- Responsible for hiring new tutors and providing TA and tutor training
- Organize the quarterly schedule of tutors for the Statistics Tutor and Study Center

## STUDENT MENTOR

Seattle, WA

Department of Statistics, University of Washington

January 2020 - December 2020

- Mentor undergraduate students in the Directed Reading Program
- Prepare reading materials and host meetings each week
- Help the student prepare their final presentation and write-up

## TUTOR

Seattle, WA

Department of Statistics, University of Washington

September 2019 - June 2020

- Host drop-in tutoring sessions in the Statistics Tutor and Study Center
- Help other tutors answer questions from 400-level and graduate classes
- Host online appointments when classes are not in-person

## WORK EXPERIENCE

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### APPLIED SCIENTIST INTERN

Seattle, WA

Amazon Inc.

June – September 2020, June – September 2021

*Project 1: Adaptive Experimental Design for Time Variation*

- Conducted real data analysis to demonstrate the existence of time variation phenomenon in real life
- Implemented bandit algorithms robust to time variation to help with auto decision making

*Project 2: Structured Multivariate Testing*

- Implemented graph optimization algorithms that improves the current framework in multivariate testing use case
- Conducted simulation analysis to study performance of the algorithm in different cases

### RESEARCH ASSISTANT

Seattle, WA

Department of Statistics, University of Washington

September 2019 – June 2020

- Did a project on Kernel Methods in Machine Learning with Professor Zaid Harchaoui and Professor Ali Shojaie
- Derive kernel methods to perform nonlinear regression and inference on structured data and network data
- Showed an error bound for the Kernel Projection Machine algorithm with the optimal choice of dimensionality

## LEADERSHIP EXPERIENCE AND SERVICE

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### MATHEMATICAL PROBLEM SOLVING CLUB, MACALESTER COLLEGE

*Co-chair*

January 2017 – May 2018

- Organize a weekly meeting on mathematical problem solving
- Prepare interesting mathematics problems and presentations on famous mathematicians

### CHINESE CULTURE CLUB, MACALESTER COLLEGE

*Board Member and Representative*

September 2015 – May 2018

- Organize a bi-weekly multi-language Karaoke and game night event and design puzzles for the escape room
- Attend weekly board meeting to discuss and help with relevant events

**OTHER SERVICE**

- Reviewing applications for the department of statistics at the University of Washington
- Reviewer of Neurips 2022, Neurips 2023, AISTATS 2022