

# Zhaoqi Li

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## RESEARCH INTEREST

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Experimental design, statistical estimation and 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

## SELECTED PUBLICATIONS

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- Z. Li, L. Ratliff, H. Nassif, K. Jamieson, L. Jain. Instance-optimal PAC algorithms for contextual bandits. arXiv preprint arXiv:2207.02357, 2022.
- 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.
- 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.

## ONGOING PROJECTS

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### Research project on Statistical Estimation of a Mean Outcome

February 2021 – Current

*Advisor: Alex Luedtke*

*University of Washington*

- Proposed an estimator for the mean outcome under a random policy
- Mathematically proved that this estimator is good under certain margin conditions
- Derived a two-sided confidence interval for the estimator without margin conditions

## 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 existing methods robust to time variation to help with automatic decision making

#### *Project 2: Structured Multivariate Testing*

- Implemented existing methods that improves the current framework in multivariate testing use case
- Conducted simulation analysis to study performance of the method in different cases

## TEACHING EXPERIENCE

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### TEACHING ASSISTANT

**Seattle, WA**

Department of Statistics, University of Washington

*September 2018 - Present*

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

*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

## 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

- Reviewed applications for the department of statistics at the University of Washington