

UTHSAV CHITRA

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Website: <https://uthsavc.github.io>

EDUCATION

Princeton University, Princeton, New Jersey

Sept 2018 - Present

Ph.D. Candidate in Computer Science

M. A. in Computer Science

Received September 2020

Brown University, Providence, Rhode Island

Sept 2013 - May 2017

Sc.B. Mathematics, A.B. Computer Science, A.B. Applied Math

GPA: 4.0/4.0

PUBLICATIONS

** denotes joint first authorship*

Quantifying and Reducing Bias in Maximum Likelihood Estimation of Structured Anomalies.

Uthsav Chitra, Kimberly Ding, Jasper C. H. Lee, Benjamin J. Raphael. *International Conference on Machine Learning (ICML) 2021.*

NetMix: A network-structured mixture model for reduced-bias estimation of altered subnetworks.

Matthew A Reyna*, **Uthsav Chitra***, Rebecca Elyanow, Benjamin J. Raphael. *International Conference on Research in Computational Molecular Biology (RECOMB) 2020.*

Analyzing the Impact of Filter Bubbles on Social Network Polarization. **Uthsav Chitra**, Christopher Musco. *ACM International Web Search and Data Mining Conference (WSDM) 2020.*

Random Walks on Hypergraphs with Edge-Dependent Vertex Weights. **Uthsav Chitra**, Benjamin J. Raphael. *International Conference on Machine Learning (ICML) 2019.*

Committee Selection is More Similar Than You Think: Evidence from Avalanche and Stellar. Tarun Chitra, Uthsav Chitra. *Manuscript, 2019.*

HONORS AND AWARDS

NSF Graduate Research Fellowship Recipient

2020

Jerome Stein Memorial Award, Brown University Applied Math Department

2017

- Given to two students each year who “show outstanding potential in an interdisciplinary area that involves applied mathematics.”

Phi Beta Kappa, Brown University (elected junior year)

2016

Top 200, William Lowell Putnam Math Competition

2015

TEACHING

Instructor/Curriculum Developer, Princeton Prison Teaching Initiative

2019-Present

- Teaching college-accredited algebra classes at NJ state prisons through the NJ-STEP program.
- Developing new computer science course to be taught in NJ state prisons starting in 2022.

Teaching Assistant/Grader, Brown University

- MATH 1560:** Number Theory
- CSCI 1570:** Design and Analysis of Algorithms
- CSCI 1450:** Probability in Computing
- CSCI 0530:** Linear Algebra for CS
- MATH 1530:** Abstract Algebra

Spring 2016, Spring 2017

Fall 2015, Fall 2016

Spring 2015

Fall 2014

Spring 2014

- Counselor**, Program in Mathematics for Young Scientists (PROMYS) *Summer 2014*
- Counselor for summer program that introduces high school students to higher math through elementary number theory.
- Teaching Assistant**, Art of Problem Solving *2012-2016*
- Assisted online, real-time math classes in algebra, number theory, combinatorics, and geometry.
 - Oversaw the message queue and helped students struggling with class material.

TALKS

NetMix: A network-structured mixture model for reduced-bias estimation of altered subnetworks

Conference on Research in Computational Molecular Biology (RECOMB) *June 2020*

Princeton University Generals Exam *May 2020*

Analyzing the Impact of Filter Bubbles on Social Network Polarization

ACM International Web Search and Data Mining Conference (WSDM) *February 2020*

KDD WISDOM Workshop *August 2019*

Random Walks on Hypergraphs with Edge-Dependent Vertex Weights

Princeton University Generals Exam *May 2020*

International Conference of Machine Learning (ICML) *June 2019*

STUDENTS ADVISED

Kimberly Ding, Princeton CS undergrad *2019-2021*

- *Recommender Systems with Hypergraph Random Walks* (IW Fall 2019)
- *Maximum Likelihood Estimation of Structured Anomalies* (Spring 2020)
- *Spatial-NetMix: Less Biased and More Flexible Anomaly Detection* (Senior Thesis 2020-2021)
 - Kimberly won the “**Outstanding Computer Science Senior Thesis Prize**” for her thesis.

Shirley Zhang, Princeton CS undergrad *Summer 2020*

- *Learning DAGs using continuous optimization*

SERVICE/OUTREACH

Conference Reviewing

RECOMB 2020 poster session, ICML 2021 (Top 10% Reviewer), NeurIPS 2021

Member of the Princeton Graduate Engineering Council *2021-Present*

Officer in the Brown Math Departmental Undergraduate Group *2015-2017*

Mentor in the Brown Matched Advising Program for Sophomores *2016-2017*

WORK EXPERIENCE

Software Engineer, Facebook *2017-2018*

- Worked on infrastructure/machine learning models for the Feed Ads Quality team.

Software Engineering Intern, Facebook *Summer 2016*

- Worked on various projects on the Video Ads team.

Hobbies/interests: **Bouldering**, current events, political betting markets, bad puns.