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 *Sept 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 *Spring 2016, Spring 2017*
- **CSCI 1570:** Design and Analysis of Algorithms *Fall 2015, Fall 2016*
- **CSCI 1450:** Probability in Computing *Spring 2015*
- **CSCI 0530:** Linear Algebra for CS *Fall 2014*
- **MATH 1530:** Abstract Algebra *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/MENTORED

Ahmed Shuaibi, Princeton QCB grad student *2021-present*

Kimberly Ding, Princeton CS undergrad *2019-2021*
- Fall 2019: *Recommender Systems with Hypergraph Random Walks*
- Spring 2020: *Maximum Likelihood Estimation of Structured Anomalies*
- Senior Thesis 2020-2021: *Spatial-NetMix: Less Biased and More Flexible Anomaly Detection*
  - 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, Princeton Graduate Engineering Council *2021-Present*
Officer, Brown Math Departmental Undergraduate Group *2015-2017*
Mentor, Brown Matched Advising Program for Sophomores *2016-2017*

WORK EXPERIENCE

Software Engineer, Facebook *2017-2018*
- Worked on infrastructure/machine learning models for ads.

Software Engineering Intern, Facebook *Summer 2016*
- Worked on various projects for video ads.

Hobbies/interests: Bouldering, current events, attempting crosswords and puzzles, bad puns.