Rishi Advani

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EDUCATION

University of Illinois Chicago   2021 – present
PhD Candidate in Computer Science (*GPA: 4.0*)
University Fellow
Advisor: Abolfazl Asudeh

University of Illinois Chicago   2021 – 2024
MS in Computer Science (*GPA: 4.0*)

Cornell University   2017 – 2021
BA in Computer Science (*cum laude*) and Mathematics

RESEARCH EXPERIENCE

InDeX Lab, University of Illinois Chicago   Aug '21 – present
Research Assistant
Design novel algorithmic approaches for combating misinformation in Professor
Abolfazl Asudeh's lab.

Civic Participation Working Group, MD4SG   Feb '21 – May '24
Member
Gave presentations on and discussed topics related to the role of computer
science in democracy, from theoretical and practical viewpoints.

Department of Information Science, Cornell University   Sep '20 – Jun '21
Research Assistant
Used topic modeling and NLP techniques to analyze the syllabi of hundreds of
university data ethics courses to understand the patterns in curricula across
different institutions, as part of Professors Karen Levy and Solon Barocas'
research group.

ICERM, Brown University   Jun '20 – Jul '20
Undergraduate Research Fellow
Studied the use of random projection in dimension reduction to solve problems
in numerical linear algebra and data science. Advised by Professor Akil Narayan.
Results available at rishi-advani.com/random-projections.

Department of Computer Science, Cornell University   Jan '20 – May '20
Research Assistant
Used generative adversarial networks to perform image generation under
Professor Bharath Hariharan.

Department of Computer Science, Cornell University   Sep '19 – Dec '19
Research Assistant
Studied high-dimensional expander graphs and pseudorandomness under
Professor Eshan Chattopadhyay.

PAPERS

Rishi Advani, Abolfazl Asudeh, Mohsen Dehghankar, Stavros Sintos. Dynamic Necklace Splitting. *Under review*.

Joel Miller, **Rishi Advani**, Chris Kanich, Ian Kash, and Lenore Zuck. Fair Division via Mutual Aid Networks. *Under review*.

Sana Ebrahimi, **Rishi Advani**, and Abolfazl Asudeh. Evaluating the Feasibility of Sampling-Based Techniques for Training Multilayer Perceptrons. *EDBT '25*. doi.org/10.48786/edbt.2025.15

Rishi Advani and Abolfazl Asudeh. Online Maximum Independent Set of Hyperrectangles. *arXiv:2307.13261*. Oct. 2024.

Rishi Advani, Paolo Papotti, and Abolfazl Asudeh. Maximizing Neutrality in News Ordering. *KDD '23*. [doi.org/10.1145/3580305.3599425](doi.org/10.1145/3580305.3599425)

Rishi Advani and Sean O'Hagan. Efficient Algorithms for Constructing an Interpolative Decomposition. *arXiv:2105.07076*. May 2021.

Rishi Advani, Madison Crim, and Sean O'Hagan. Random Projections and Dimension Reduction. *arXiv:2008.04552*. Aug. 2020.

Rishi Advani. On the Prevalence of Bridge Graphs among Non-3-Connected Cubic Non-Hamiltonian Graphs. *arXiv:1908.10528*. Aug. 2019.

PRESENTATIONS

Maximizing Neutrality in News Ordering, KDD '23, Long Beach, CA   Aug '23
Oral and poster presentations. Promo video available at
youtu.be/8kKdqbg1Byg.

An Improved Interpolative Decomposition, SUMS, James Madison University   Dec '20
Presented results from research at ICERM and further work. Recording available
at youtu.be/C1D3yBpKJ6Y.

Random Projections, ICERM, Brown University   Jul '20
Presented research from Summer@ICERM program. Slides available at
rishi-advani.com/random-projections/slides.pdf.

WORK EXPERIENCE

Teaching Assistant, University of Illinois Chicago, Chicago, IL   Aug '23 – Dec '23
Graduate TA for CS 401: Computer Algorithms I. Hosted office hours, graded   Aug '25 – Dec '25
assignments and exams, and managed a discussion forum for students.

Software Engineering Intern, The Learning Corp, Newton, MA   Jun '18 – Aug '18
Project manager for a team of 5 new interns. Guided them through the
software development process using Agile methodology. Designed back-end
services in Java and SQL, and front-end features in Python.

Intern, Constant Therapy, Newton, MA   Jun '14 – Aug '14
Designed new features in a stroke therapy app using Java. Analyzed trends in   Jun '15 – Aug '15
over 30,000 user responses using SQL to verify content accuracy. Performed   Jun '16 – Aug '16
extensive testing of the product. Assisted patients with rehabilitation exercises.

HONORS

Travel Award, UIC Graduate Student Council

Student Presenter Award, UIC Graduate College

Student Travel Award, KDD '23

University Fellowship, University of Illinois Chicago
Awarded to students who are considered most promising and most likely to
make outstanding contributions to the university and their fields of learning.

SERVICE

PC Member: AISI '26, CIKM '24

Reviewer: SoLaR '25

External Reviewer: SIGMOD '25, ICDE '23

Ethics Reviewer: NeurIPS '23

Student Volunteer: KDD '23, FAccT '23

Lead Maintainer, Cornell CS Wiki   Apr '19 – May '21
Maintained an open-source wiki for students interested in computer science at
Cornell University. Added content, moderated submissions, maintained
continuous integration with GitHub source, and recruited new members.
Hosted at cornellcswiki.gitlab.io.

Co-Founder and Co-Director, PDMT   Jun '16 – May '17

Managed finances and negotiated sponsorships for a math competition with over 100 participants. Led a team of over 40 people working in publicity, problem-writing, and web development.

PROJECTS

hw-latex-template   Fall '20 – present

Maintain an open-source LaTeX template for typesetting homework solutions. Available at github.com/rishi1999/hw-latex-template.

pixel-shuffle   Spring '21

Designed a novel image morphing app using Python. Overview at rishi-advani.com/pixel-shuffle.

Tweet Classifier   Fall '19

Trained a model to determine whether a Tweet by a certain high-profile Twitter user was written by the user themselves or by a member of their PR team. Our model ranked 6th place out of over 100 teams in our Machine Learning for Intelligent Systems course.

Story Cloze Test   Fall '19

Fine-tuned a BERT model to predict the endings of stories from the ROCStories dataset.

OCaml Poker   Spring '19

Designed a poker engine using OCaml with an intelligent AI opponent.

TECHNICAL SKILLS

Python • NumPy • SciPy • PyTorch • scikit-learn • pandas • SQL • LaTeX • Git • Linux

LANGUAGES

English (native) • Hindi (proficient) • Spanish (proficient)