Jesse Goodman

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Research Interests

Pseudorandomness, Complexity Theory, Combinatorics, Cryptography

Appointments

The University of Texas at Austin August 2023 -
Research Fellow / Postdoctoral Fellow
Host: David Zuckerman

Education

Cornell University 2018 - 2023
Ph.D., Computer Science
Advisor: Eshan Chattopadhyay
Thesis: Seedless Extractors

Princeton University 2013 - 2017
B.S.E., *summa cum laude*, Computer Science
Certificate, Applied and Computational Mathematics

Publications

Low-degree polynomials are good extractors
Omar Alrabiah, Jesse Goodman, Jonathan Mosheiff, João Ribeiro
RANDOM 2025

Leakage-resilient extractors against number-on-forehead protocols
Eshan Chattopadhyay, Jesse Goodman
STOC 2025

Improved condensers for Chor-Goldreich sources
Jesse Goodman, Xin Li, David Zuckerman
FOCS 2024

Extractors for polynomial sources over $\mathbb{F}_2$
Eshan Chattopadhyay, Jesse Goodman, Mohit Gurumukhani
ITCS 2024

Low-degree polynomials extract from local sources
Omar Alrabiah, Eshan Chattopadhyay, Jesse Goodman, Xin Li, João Ribeiro
ICALP 2022

The space complexity of sampling
Eshan Chattopadhyay, Jesse Goodman, David Zuckerman
ITCS 2022

Affine extractors for almost logarithmic entropy
Eshan Chattopadhyay, Jesse Goodman, Jyun-Jie Liao
FOCS 2021

Improved extractors for small-space sources
Eshan Chattopadhyay, Jesse Goodman
FOCS 2021

Extractors and secret sharing against bounded collusion protocols
Eshan Chattopadhyay, Jesse Goodman, Vipul Goyal, Ashutosh Kumar, Xin Li, Raghu Meka, David Zuckerman
FOCS 2020

Extractors for adversarial sources via extremal hypergraphs
Eshan Chattopadhyay, Jesse Goodman, Vipul Goyal, Xin Li
STOC 2020

On the approximability of Time Disjoint Walks
Alexandre Bayen, Jesse Goodman, Eugene Vinitsky
COCOA 2018, *invited to special issue of Journal of Combinatorial Optimization*
Journal of Combinatorial Optimization 2020

Talks

Leakage-resilient extractors against number-on-forehead protocols

- DavidFest 2025, *The University of Texas at Austin* — October 2025
- STOC 2025, *Prague, CZ* — June 2025
- Theory Lunch, *Stanford University* — May 2025
- Theory Seminar, *Columbia University* — April 2025
- Theory Seminar, *New York University* — April 2025
- Theory Seminar, *Cornell University* — April 2025

Low-degree polynomials are good extractors

- RANDOM 2025, *Berkeley, CA* — August 2025

Improved condensers for Chor-Goldreich sources

- Theory Seminar, *The University of Texas at Austin* November 2024
- FOCS 2024, *Chicago, IL* October 2024

Exponentially improved extractors for adversarial sources

- Theory Seminar, *The University of Texas at Austin* November 2023

Low-degree polynomials extract from local sources

- ICALP 2022, *Virtual* July 2022

The space complexity of sampling

- ITCS 2022, *Virtual* February 2022

Improved extractors for small-space sources

- FOCS 2021, *Virtual* February 2022

Extractors and secret sharing against bounded collusion protocols

- FOCS 2020 (with Ashutosh Kumar), *Virtual* November 2020
- Theory Seminar, *Cornell University* November 2020

Extractors for adversarial sources via extremal hypergraphs

- STOC 2020, *Virtual* June 2020
- ACO Seminar, *Carnegie Mellon University* May 2020

On the approximability of Time Disjoint Walks

- COCOA 2018, *Atlanta, GA* December 2018

Visits & Internships

NTT Research, *Sunnyvale, CA* Summer 2022
Research Intern, CIS Lab. Host: Vipul Goyal

Carnegie Mellon University, *Pittsburgh, PA* Summer 2019
Visiting Scholar, Computer Science Department. Host: Vipul Goyal

Google, *New York, NY* Summer 2018
Software Engineering Intern, Google Research / Google Search

UC Berkeley, *Berkeley, CA* September 2017 - May 2018
Researcher, EECS Department. Host: Alexandre Bayen

Google, *Sunnyvale, CA* Summer 2017
Software Engineering Intern, Google Cloud

Google, *Mountain View, CA* Summer 2016
Software Engineering Intern, Network Architecture

Teaching

CS 4820: Introduction to Analysis of Algorithms (Head TA, Cornell)	Spring 2023
CS 4820: Introduction to Analysis of Algorithms (Head TA, Cornell)	Spring 2019
CS 4820: Introduction to Analysis of Algorithms (Head TA, Cornell)	Fall 2018
MAT 375: Introduction to Graph Theory (TA, Princeton)	Spring 2017

Service and Outreach

Program committee: 5th Conference on Information-Theoretic Cryptography (ITC 2024)	
Reviewer: SICOMP, STOC, FOCS, CCC, ITCS, CRYPTO, RANDOM, ToIT, ISIT, ITC	
Member: *CS PhD Admissions Committee*, Cornell University	2022
Volunteer: *URM Applicant Support Program*, Cornell University	2022
Co-organizer: *Theory Tea*, Cornell University	2019-2022
Chair on committee: *Expand Your Horizons (EYH)*, Cornell University	2020
Volunteer: *Girls' Adventures in Math (GAIM)*, Cornell University	Spring 2019
Instructor: *Splash at Berkeley*, UC Berkeley	Spring 2018
Instructor: *Splash at Princeton*, Princeton University	Spring 2017