

ISHA PURI

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EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Cambridge, MA

PhD Student in Machine Learning and AI, NLP (EECS/CSAIL)

2023 - 2027

- Supported by NSF Graduate Research Fellowship & MIT Great Educators Fellowship
- Co-President of Graduate Women in CS. Co-Leader of MIT NLP Seminar. Started MIT NLP Twitter.
- Advised by Professors Yoon Kim and Marzyeh Ghassemi
- *Focus Area: LLM Scaling, Reasoning, Uncertainty, Domain Integration*
- [ishapuri.github.io](https://github.com/ishapuri)

HARVARD UNIVERSITY

Cambridge, MA

BA, Applied Mathematics, Computer Science, GPA: 3.94 / 4.0

Kirkland House

2023

(Minor: Statistics)

Co-President, Harvard Women in CS

Advised by: Professor Hima Lakkaraju

COLUMBIA UNIVERSITY / HORACE GREELEY HIGH SCHOOL

New York, New York

High School Honors Program, Summa Cum Laude, Valedictorian, GPA: 4.0/4.0

2019

INVITED TALKS

- UT Austin - October 2025
- NVIDIA - October 2025
- COLM SCALR Workshop Oral - October 2025
- Stanford University - August 2025
- Cohere AI - July 2025
- University of Cambridge - June 2025
- MIT EI Seminar - April 2025
- RedHat - February 2025
- IBM Research - February 2025

SELECTED AWARDS/HONORS

- MIT Great Educators Fellowship
- National Science Foundation (NSF) Graduate Research Fellowship
- Kempner Institute Graduate Fellowship (6 years, fully funded PhD) (Declined) (Harvard)
- Gordon Wu Fellowship (5 year fellowship) (Declined) (Princeton University)
- Donald and Kathleen Pfister Prize for Excellence in the Sciences (2023)
- Coca Cola Scholarship (250 chosen from > 90,000 applications)
- Harvard Tech Innovation Fellowship, (Harvard Business School) (10 chosen, Cohort President)
- Derek Bok Certificate for Distinction in Teaching, (Harvard University)
- ACM Cutler Bell Prize for Excellence in Computing Research, (4 chosen nationwide)
- Davidson Fellowship (Forbes: "World's Most Prestigious Undergraduate Scholarship")
- ThermoFisher Scientific Collegiate Fellowship (6 chosen nationwide)
- NCWIT Collegiate Prize (6 selected nationwide)
- Elected Co-President of Harvard Women in Computer Science (2022), largest undergrad student org on campus, involves managing 40+ person board, \$400k budget, 25+ corporate sponsors, 100+ events / year.
- Intel ISEF Grand Award Winner (2nd Place) (2018) (International Science and Engineering Fair)
- National Security Agency Mathematics Honor Award (2018)
- Forbes, 20 of America's Brightest Students (2019)

PROFESSIONAL AND LEADERSHIP EXPERIENCE

ABRIDGE San Francisco, CA
Product / AI May 2025 - September 2025
Overhauled entire internal AI evaluation, built customization features, and more. Reported directly to Head of AI and CPO.

NEURIPS San Diego, CA
Associate Program Chair February 2025 - Present
One of 5 Associate Program Chairs assisting the PC committee (in charge of conference scientific direction)

MIT IBM WATSON RESEARCH LAB Cambridge, MA
Language Models Research June 2023 - September 2024
working on new ways for Language Models to reason like humans. Building LM agents that can think, plan, execute, and reflect in real-life workflows.

IBM RESEARCH AI New York, NY
AI Research Intern, Foundations of Trustworthy AI January 2021 - August 2022

- Developed CoFrNets, a novel, inherently interpretable neural network architecture.
- Open sourced CoFrNets to IBM's AI Explainability 360 Library (1.2k Github stars)
- First-author paper accepted to NeurIPS 2021, selected for IBM Patenting Process.
- Helped guide 2022 summer intern on a follow up project extending CoFrNets to Analog AI.

AMAZON WEB SERVICES New York, NY
Chief of Staff, AWS University Venture Scout Program May 2021 – May 2022

- Working and reporting directly to Amazon management to oversee a program of 200+ students from 150 schools. Meet with founders, perform due diligence, present findings to Amazon NY Headquarters.

INSTABASE San Francisco, CA
Software Engineering / Product Management Intern, Machine Learning Summer 2020

- Developed and integrated novel handwriting detection algorithm with 95% Accuracy into Instabase's platform. Used in 5 major client POCs (Bank of America, Royal Bank of Canada, etc.)
- Developed document-processing Deep Learning Models in end-to-end workflow for Business Process Automation (BPA) project for financial institutions for 40% increase in document.

HARVARD WOMEN IN COMPUTER SCIENCE (WICS) Cambridge, MA
Co-President September 2019 - May 2023

- Lead a 40-person board managing a ~\$400k budget for hundreds of members.
- Source and secure sponsorships from over 25+ tech companies
- Run over 100 social, academic, mentorship, career, sponsorship events yearly.
- Speak at conferences, sponsor events, faculty meetings, mentorship summits, etc.

HARVARD TECH FELLOWS PROGRAM Cambridge, MA
Cohort President, Harvard Undergraduate Technology Innovation Fellows May 2022 - May 2023

- One of 12 students selected per year to work and learn at the intersection of technology, business, and entrepreneurship under the mentorship of HBS professors, VC leaders, and founders.
- Elected Cohort Co-President, organizing summits, mentorship sessions, lunches, and professional events.

SHIFT7 New York, NY
Data Analyst November 2019 – January 2020

- Shift7 is a nonprofit founded by former CTO of the USA, Megan Smith.
- Analyzed news feeds for environmental equity.
- Presented findings to Megan Smith, former USA CTO.

HARVARD CONSULTING ON BUSINESS AND THE ENVIRONMENT Cambridge, MA
Technology Case Analyst September 2019 – September 2020

- Worked w/ world's leading furniture retailer (IKEA) to integrate scalable solutions to supply chain and information digitization/management.
- Worked w/ global pharmaceutical giant (B. Braun) to propose AI-driven technologies for future product. Presented recommendations to the CEO.

JP MORGAN CHASE AND CO.

Software Engineering Intern, Fintech Focus Fellow

- Built a full-stack web application to empower JPMC customers to find local banking options.
- Demoed in front of the Head of AI.

New York, NY

July – August 2019

IEEE ETHICS COMMITTEE

Student Lead

San Francisco, California

May 2018 – May 2019

- 1 of 20 students worldwide, developed ethical guidelines for Artificial Intelligence applications, co-authored paper that appeared in IEEE Journal.

PUBLICATIONS

(chronological)

- Beyond Binary Rewards: Training LMs to Reason About Their Uncertainty**
Mehul Damani*, **Isha Puri***, Stewart Slocum, Idan Shenfeld, Leshem Choshen, Yoon Kim, Jacob Andreas (*= equal contribution)
SCALR@COLM Oral, LLM Explainability for Reasoning & Planning @ COLM, 2025, In Submission.
- A Probabilistic Inference Approach to Inference-Time Scaling of LLMs using Particle-Based Monte Carlo Methods**
Isha Puri, Shiv Sudalairaj, GX Xu, Kai Xu, Akash Srivastava
NeurIPS, 2025
- MedPAIR: Measuring Physicians and AI Relevance Alignment in Medical Question Answering**
Yuexing Hao, Kumail Alhamoud, Hyewon Jeong, Haoran Zhang, **Isha Puri**, Philip Torr, Mike Schaeckermann, Ariel D. Stern, Marzyeh Ghassemi
KDD Workshop on Trust & Evaluation in GenAI, COLM Socially Responsible LMs Workshop, 2025
- Can AI Relate: Testing Large Language Model Response for Mental Health Support**
Saadia Gabriel, **Isha Puri**, Xu hai Xu, Matteo Malgaroli, Marzyeh Ghassemi
EMNLP Findings, 2024
- Improving Black-box Robustness with In-Context Rewriting**
Kyle O'Brien, Nathan Ng, **Isha Puri**, Jorge Mendez, Hamid Palangi, Yoon Kim, Marzyeh Ghassemi, Thomas Hartvigsen
Transactions on Machine Learning Research (TMLR), 2024
- Evaluating Causal Reasoning Capabilities of Language Models**
Isha Puri, Himabindu Lakkaraju
International Conference on Machine Learning (ICML), 2023
- Reconsidering the Algorithmic Fairness of Race Adjustment in Pulmonary Function Equations**
Isha Puri, Neil Sehgal, Usha Bhalla
AI for Social Good Workshop, AAAI, 2023
- OpenXAI: Towards a Transparent Evaluation of Model Explanations**
Chirag Agarwal, Satyapriya Krishna, Eshika Saxena, Martin Pawelczyk, Nari Johnson, **Isha Puri**, Marinka Zitnik, Himabindu Lakkaraju
NeurIPS, 2022
- CoFrNets: Interpretable Neural Architecture Inspired by Continued Fractions**
Isha Puri, Amit Dhurandhar, Tejaswini Pedapati, Kartikeyan Shanmugam, Dennis Wei, Kush R. Varshney
NeurIPS, 2021
- A System for Accurate Tracking and Video Recordings of Rodent Eye Movements using Convolutional Neural Networks for Biomedical Image Segmentation**
Isha Puri, David Cox
IEEE EMBC, 2018

TEACHING EXPERIENCE

HARVARD UNIVERSITY

3rd Year Teaching Fellow, AM 120 - Linear Algebra and Big Data
- Harvard’s Derek Bok Certificate for Distinction in Teaching

Cambridge, MA
May 2020 - May 2023

Peer Concentration Advisor - Applied Mathematics Department

May 2021 - May 2023

Non-Resident Tutor, Kirkland House, Harvard University

May 2023 - Present