

# ISHA PURI

95 Dunster Street, Cambridge, MA, 02138 • (914) 409 - 6880 • ishapuri@mit.edu • [ishapuri.github.io](https://ishapuri.github.io)

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## EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY Cambridge, MA  
PhD Student in Machine Learning and AI, NLP (EECS/CSAIL) 2023 -  
Supported by National Science Foundation Graduate Research Fellowship & MIT Great Educators Fellowship  
Advised by Professors Yoon Kim and Marzyeh Ghassemi

HARVARD UNIVERSITY Cambridge, MA  
BA, Applied Mathematics and Computer Science, GPA: 3.94 / 4.0 Kirkland House 2023  
(Minor: Statistics) Co-President, Harvard Women in CS Advisors: Professor Hima Lakkaraju (Research)

COLUMBIA UNIVERSITY/ HORACE GREELEY HIGH SCHOOL New York, New York  
High School Honors Program, Summa Cum Laude, Valedictorian, GPA: 4.0/4.0 (unweighted) 2019

## SELECTED AWARDS/HONORS

- Donald and Kathleen Pfister Prize for Excellence in the Sciences (2023)
- Coca Cola Scholarship (250 chosen from > 90,000 applications)
- Forbes, 20 of America's Brightest Students (2019)
- Harvard Technology Innovation Fellowship, (Harvard Business School) (10 students chosen, Cohort President)
- Derek Bok Certificate for Distinction in Teaching, (Harvard University)
- ACM Cutler Bell Prize for Excellence in Computing Research, (Association of Computing Machinery) (4 chosen nationwide)
- Davidson Fellowship (Recognized by Forbes as "World's Most Prestigious Undergraduate Scholarship")
- ThermoFisher Scientific Collegiate Fellowship (6 chosen nationwide)
- NCWIT Collegiate Prize (National Center for Women in Information Technology) (6 selected nationwide)
- Elected Co-President of Harvard Women in Computer Science (2022), largest undergrad student org on campus, elected by hundreds of members, 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)

## PROFESSIONAL AND LEADERSHIP EXPERIENCE

MIT IBM WATSON RESEARCH LAB Cambridge, MA  
Language Models Research Intern June 2023 - Present  
Working with AI leaders to innovate new ways for Language Models to reason like humans.

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. Solely wrote code/experiments for 5 researcher team.
- 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 May 2020 – September 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 - Present
- Lead and set the vision for a 40-person board managing a ~\$400k budget for hundreds of members.
  - Source and secure sponsorships from over 25 tech companies ranging from FANG companies to startups.
  - Run over 100 social, academic, mentorship, career, sponsorship events yearly.
  - Speak at conferences, sponsor events, faculty meetings, mentorship summits, etc.
  - Liaise with the School of Engineering to pilot diversity and inclusion programs
  - Organizing a first-of-its-kind mentorship program for racially underrepresented minorities at Harvard that pairs Black, Hispanic, and Native American underclassmen with mentors in the tech industry to provide support, mentorship, and advice throughout their careers (Stripe, Facebook, Bloomberg).
  - Runs an under-upperclassman-mentorship program, through which I personally mentor 15 students / year.
- HARVARD TECH FELLOWS PROGRAM Cambridge, MA  
 Cohort President, Harvard Undergraduate Technology Innovation Fellows May 2022 - Present
- 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. New York, NY  
 Software Engineering Intern, Fintech Focus Fellow July – August 2019
- Built a full-stack web application to empower JPMC customers to quickly find the closest bank.
  - Demoeed in front of the Head of AI.
- CREAITE New York, NY  
 Co-Founder May 2016 - May 2019
- Co-founded an organization called CreAlte that reached almost 600 girls nationwide with the goal of inspiring young women to pursue AI by immersing them in its artistic and humanistic impacts. CreAlte ran workshops around the country (from NYC and Chicago to San Francisco) and created a partnership program with the YMCA and AI4ALL.
  - Presented at conferences and created a curriculum that was used by the NYC Public School System!
- IEEE ETHICS COMMITTEE San Francisco, California  
 Student Lead 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**

1. **Isha Puri** and David Cox, "A System for Accurate Tracking and Video Recordings of Rodent Eye Movements using Convolutional Neural Networks for Biomedical Image Segmentation," 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), 2018, pp. 3590-3593.
2. **Isha Puri**, Amit Dhurandhar, Tejaswini Pedapati, Kartikeyan Shanmugam, Dennis Wei, and Kush R. Varshney, 'CoFrNets: Interpretable Neural Architecture Inspired by Continued Fractions', in Advances in Neural Information Processing Systems, 2021, vol. 34, pp. 21668–21680.
3. Chirag Agarwal, Satyapriya Krishna, Eshika Saxena, Martin Pawelczyk, Nari Johnson, **Isha Puri**, Marinka Zitnik, and Himabindu Lakkaraju. 'OpenXAI: Towards a Transparent Evaluation of Model Explanations', in Advances in Neural Information Processing Systems, 2022.
4. **Isha Puri**, Neil Sehgal, Usha Bhalla. 'Reconsidering the Algorithmic Fairness of Race Adjustment in Pulmonary Function Equations', AI for Social Good Workshop, AAAI Conference on Artificial Intelligence, 2023.
5. **Isha Puri**, Eric Horvitz, and Himabindu Lakkaraju, "Evaluating Causal Reasoning Capabilities of Language Models", International Conference on Machine Learning, 2023.

## **PRESENTATIONS**

- 15+ Fundraising Meetings for Harvard WiCS (2022-present)
- NeurIPS 2021, Main Conference Presentation – Virtual (December 2021)
- IEEE Engineering in Medicine and Biology Conference - Hawaii, HI (July, 2019)
- Machine Intelligence Conference – Cambridge, MA (September, 2019)
- Columbia University AI4ALL - New York, NY (September, 2019)
- Google Headquarters – Mountain View, CA (August, 2019)
- International Society for Technology in Education – Virtual (March, 2019)
- MIT Tech Review Emerging Technologies Conference – San Francisco, CA (March 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 - Present

Peer Concentration Advisor - Applied Mathematics Department

May 2021 - Present