

Princewill Okoroafor

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Email: pco9@cornell.edu

Website: pokoroafor.github.io

Research interests Theoretical Computer Science, Learning Theory, Algorithmic Fairness

Education

Cornell University	Ithaca, NY
PhD in Computer Science	August 2020 – Present
Advisor: Robert Kleinberg.	

Harvey Mudd College	Claremont, CA
BS in Computer Science and Mathematics	August 2016 – May 2020
Mentors: Ran Libeskind (CS), Theresa Lynn (Physics), Mohamed Omar (Math)	

Honors and Scholarships

Selected for 2024 Stanford MS&E Rising Stars	2024
Selected for 2024 Georgia Tech ISyE Young Researchers Workshop	2024
LinkedIn-Cornell 2023 Grant Recipient (accepted)	2023
JP Morgan Fellowship Award Recipient (declined)	2023
Computer Science Department Honors (Harvey Mudd)	2020
ACM ICPC Southern California Regional (5th Place)	2019
Shamit Grover '05 and Kara McManus Scholarship (Harvey Mudd)	2016
Pan-African Science Olympiad (Gold Medal, First Place)	2015
International Math Olympiad (Honorable Mention)	2012

Publications

Contextual Pricing with Heterogeneous Preferences
Thodoris Lykouris, Sloan Nietert, Princewill Okoroafor, Chara Podimata, Julian Zimmert.
pre-print, 2024.

Near-Optimal Algorithms for Omniprediction
Princewill Okoroafor, Robert Kleinberg, Michael Kim.
pre-print, 2024.

Full Swap Regret and Discretized Calibration
Maxwell Fishelson, Robert Kleinberg, Princewill Okoroafor, Renato Paes Leme, Jon Schneider, Yifeng Teng.
ALT 2025

Breaking the $T^{2/3}$ Barrier for Sequential Calibration
Yuval Dagan, Constantinos Daskalakis, Maxwell Fishelson, Noah Golowich, Robert Kleinberg, Princewill Okoroafor.
STOC 2025.

Omnipredictors for Regression and the Approximate Rank of Convex Functions

Parikshit Gopalan, Princewill Okoroafor, Prasad Raghavendra, Abhishek Shetty, Mihir Singhal.

COLT 2024.

On the Vulnerability of Fairness Constrained Learning in Malicious Noise

Avrim Blum, Princewill Okoroafor, Aadirupa Saha, Kevin Stangl.

AISTATS 2024.

Non-stochastic CDF Estimation Using Threshold Queries

Princewill Okoroafor, Vaishnavi Gupta, Robert Kleinberg, Eleanor Goh.

SODA 2023.

Faster Recalibration of an Online Predictor via Approachability

Princewill Okoroafor, Wen Sun, Robert Kleinberg.

AISTATS 2024.

Industry and Research Experience

Google, Learning Theory Berlin

Student Researcher with Mehryar Mohri and Julian Zimmert Winter 2023

Apple, Machine Learning Research Cupertino, CA

Research Intern with Parikshit Gopalan Summer 2023

TTIC, Toyota Technological Institute Chicago, CA

Research Intern with Avrim Blum Summer 2022

Microsoft Research, MSR NYC Virtual

Research Engineer Intern with Akshay Krishnamurthy Summer 2020

Microsoft, Microsoft Teams Bellevue, WA

Software Engineer Intern Summer 2018, Summer 2019

Jobs in Nigeria, Lagos, Nigeria

Software Developer Intern Summer 2014

Teaching experience

Teaching assistant, Cornell University 2021 - 2024

CS 6828: Foundations of Responsible Machine Learning

CS 6789: Foundations of Reinforcement Learning

CS 4820: Introduction to Analysis of Algorithms

Teaching assistant, Harvey Mudd College Fall 2017 - Spring 2020

MATH 055: Discrete Mathematics

MATH 171: Abstract Algebra
 MATH 172: Abstract Algebra II: Representation Theory
 CS 81: Computability and Logic
 CS 140: Algorithms
 CS 181D: Complexity Theory
 PHYS 24: Mechanics and Wave Motion

Talks and tutorials

Breaking the $T^{2/3}$ Barrier for Sequential Calibration October 2024
 FOCS Workshop on Calibration 2024

Omniprediction for Regression and the Approximate Rank of Convex Functions July 2024
 COLT 2024

Omniprediction for Regression and the Approximate Rank of Convex Functions Dec 2023
 Google Learning Theory Seminar

Non-stochastic CDF Estimation Using Threshold Queries Oct 2023
 2023 INFORMS Annual Meeting

Non-stochastic CDF Estimation Using Threshold Queries Nov 2022
 Cornell Fall 2022 Theory Seminar

Skills

Programming
 Proficient in: Python, Javascript, C++, HTML/CSS, Git
 Familiar with: Racket, React, AngularJS, NodeJS

Languages
 English (fluent), Igbo (fluent), French (conversational)

Service and outreach

Young Data Scientists League Jan 2018 – present
 Data science education non-profit focused on middle-school students

Special Maths Academy Nigeria Jan 2020 – August 2024
 Math summer program for middle and high school students in Nigeria

Gear Up - Renton, WA Aug 2019
 College and career readiness of low-income middle school students.

MISE CS Research Camp - Accra, Ghana Summer 2017
 Research mentorship camp for high school students

Gifted Math Camp - Abuja, Nigeria Summer 2015, Summer 2017

High school math camp for exceptional students from across Nigeria.

Other interests

soccer, chess.

References

Robert Kleinberg

robert.kleinberg@gmail.com

Professor at Cornell University

Michael P. Kim

mpk@cs.cornell.edu

Assistant Professor at Cornell University

Parikshit Gopalan

parik.g@gmail.com

Researcher at Apple