

Ranya Sharma

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EDUCATION

The University of Chicago

Bachelor of Arts in Computer Science; Bachelor of Arts in Political Science

Chicago, IL
Expected June 2026

Barrington High School

Diploma

Barrington, IL
May 2022

Honors: National Merit Commended Student; ACT 36; AP Scholar with Distinction; Northern Illinois Affiliate Award for Aspirations in Computing; President's Volunteer Service Award; Prudential Spirit of Community Awards Program

EXPERIENCE

Research Assistant, Network Operations and Internet Security (NOISE) Lab

Department of Computer Science, University of Chicago

Chicago, IL
February 2021 – Present

- Co-authored paper with Nick Feamster, PhD for 32nd USENIX Security Symposium and IETF 117 on Domain Name System (DNS) encryption
- Developed measurement harness to test the reliability of 88 encrypted DNS resolvers, employed virtual machines
- Applied machine learning to evaluate user quality of experience for a generic video conferencing application
- Analyzed network measurement data collected from 43 households to understand household WiFi bottlenecks

Intern, NetMicroscope

Network Performance Measurement Company

Chicago, IL
Summer 2023

- Developed scripts to understand video quality degradations under varying network conditions, applying machine learning

Research Assistant, Internet Equity Initiative

Data Science Institute Summer Lab, University of Chicago

Chicago, IL
Summer 2021, Summer 2022

- Co-authored paper with Nick Feamster, PhD and Nicole Marwell, PhD for TPRC 2022 investigating disparities in internet performance in 35 Chicago neighborhoods
- Presented findings to peers and faculty members at annual symposium

Invent2Prevent, Restore Justice Illinois, Tech Team

Institute of Politics, University of Chicago

Chicago, IL
September 2022 – Present

- Developed a personalized data dashboard that generates visualizations to educate users on anti-disability violence
- Collaborated with Restore Justice Illinois to study death penalty data in Illinois prisons

LEADERSHIP & ACTIVITIES

Co-Founder, Skulls and Drills

501(c)(3) Nonprofit Organization

Barrington, IL
Spring 2018 – Present

- Partner with hospitals & NGOs to support brain surgeries; collected \$20,161 to date through fundraising events

Winter Institute Planner, W+

Institute of Politics, University of Chicago

Chicago, IL
September 2022-Present

- Arranged reproductive justice panel event with Senator Liz Krueger, Chair of the Senate Finance Committee

PUBLICATIONS

- **Sharma, R.**, Mangla, T., Saxon, Richardson, M., Feamster, N. & Marwell, N. (2022). *Benchmarks or Equity? A New Approach to Measuring Internet Performance*. The Research Conference on Communications, Information and Internet Policy (TPRC): https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4179787
- **Sharma, R.**, Feamster, N., & Hounsel, A. (2022). *Measuring the Availability and Response Times of Public Encrypted DNS Resolvers*. <https://arxiv.org/abs/2208.04999>
- Nisenoff, A., **Sharma, R.**, & Feamster, N. (2022). *Understanding User Awareness and Behaviors Concerning Encrypted DNS Settings*. 32nd USENIX Security Symposium: <https://www.usenix.org/system/files/sec23fall-prepub-126-nisenoff.pdf>

SKILLS

Programming: Python, Java, C, Go, Jupyter Notebooks, LaTeX, Docker