Roma Bhattacharjee

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EDUCATION & ECs

PRINCETON UNIVERSITY

B.S.E. Student | Class of 2025 | GPA UW 3.9/4.0

Princeton, NJ

- Major: Computer Science (COS)
- Certificates: Optimization and Quantitative Decision Science, Statistics & Machine Learning, Finance
- Relevant courses: Adv. Vector Calculus, Adv. Linear Algebra w/ Applications, Algorithms & Data Structures, Fundamentals of Statistics, Adv. Physics (Mechanics), General Physics II, Introductory Logic, Intro to Macroeconomics, Probability and Stochastic Systems
- TA for Adv. Vector Calculus, TA for Algorithms & Data Structures, lead SWE on The Daily Princetonian Technology Team, member of Princeton Debate Panel, member of Princeton Women in Entrepreneurship

UNIVERSITY OF CHICAGO MASTERS PROGRAM IN COMPUTER SCIENCE (MPCS)

Non-degree-seeking high school student | 2019–2021

Chicago, IL

- Courses: iOS Application Development (Grade: A); Algorithms (Grade: A); Intro to Software Engineering (Grade: A)

UNIVERSITY OF CHICAGO LABORATORY SCHOOLS

High School Diploma | Class of 2021 | GPA UW 4.0/4.0

Chicago, IL

- Awards: Brian Swan award for AT Physics I , Achievement in Computer Science award, Eunice H. McGuire Excellence in Writing award, Finalist.
- Executive Board of Student Council (Director of Technology), debating team (Novice), Vice-President of Girl-Up Club, Varsity Volleyball (Co-Captain), Board of Artsfest
- Relevant courses: AP CS; Computer Architecture; Discrete Math; AI & ML; AT Economics; Linear Algebra/Multivariate Calculus
- Member of Science, Math (qualified for AIME 2020, 2021), Robotics

MUSIC

- Played piano since 4 y/o. Completed all 12 levels of the Achievement in Music (AIM) program.

APTITUDE & SKILLS

Standardized Test Scores & Awards

SAT 1590/1600 [Aug '20] •ACT 36/36 [Dec '19] •National Merit Scholarship 2021 Finalist: 224/226 •2021 Semifinalist for U.S. Presidential Scholars Program •SAT Math 2: 800 •SAT Physics: 790

Software Skill Sets

MacOS •Windows •Linux/Unix •C/C++ •Java •Python •Bash •TypeScript •Swift •React •Node.js •LaTeX •SQL •NumPy + Pandas •MATLAB •R •Fusion360 •Blender •Flask •PyQt5 •PyTorch •AWS •Kafka •InfluxDB •Grafana •Docker

EXPERIENCE

D.E. SHAW DISCOVERY FELLOWSHIP [link]

Nominated Student | Aug 2022 | New York, NY

- Selective three-day program for a small group of sophomore-year undergraduate women. Invited to D.E. Shaw's headquarters to learn about the intersection of finance and technology through interactive case studies and seminars.

CME GROUP [link]

Intern – Production Engineering team | May 2022–Aug 2022 | Chicago, IL

- Implemented Robot Framework to automate end-to-end execution of MiFID report generation, kicking off a multi-year project to replace existing test framework.
- This included building an order entry library in Python to communicate with Globex—CME's electronic trading system—via Simple Binary Encoding (SBE).

STARTUP – STEALTH MODE

SWE – Core team | May 2022– | Remote

- Application build-out for a product for the Construction & Engineering Industry.

ARTIFICIAL INTELLIGENCE FOR 3D DATA – UCHICAGO 3DL [link]

Research Intern | June 2022– | Chicago, IL

- Working with Assistant Prof Rana Hanocka. 3DL works at the intersection of deep learning and 3D, with applications in computer graphics, machine learning, and computer vision. I am developing an extension to the Text2Mesh project.

APPLIED AI/ML AT UCHICAGO SAND LAB [link]

Summer Research Assistant | Jun 2021–Aug 2021 | Chicago, IL

- Worked with Professor Ben Y. Zhao at the University of Chicago SAND Lab through the Data Science Institute (DSI) Summer Lab program.
- Conducted research on physical backdoor attacks in computer vision models. Developed automatic graph analysis techniques to uncover viable physical triggers in pre-existing object datasets. Co-first author on paper submitted to NeurIPs 2022 dataset track.

COMPUTER-AIDED DIAGNOSIS: UCHICAGO GIGER LAB ML/AI [link]

Research Assistant | Jun 2020–Jun 2021 | Chicago, IL

- Worked with Dr. Maryellen Giger, Dr. Karen Drukker, and Ph.D. candidate Lindsay Douglas on project about quantitative radiomic analysis for abbreviated/ultrafast breast MRI. Compared lesion segmentation methods, including convolutional neural networks.
- First author of research abstract accepted to Optics & Photonics organization SPIE's Medical Imaging Conference, Feb 2021—delivered an oral presentation.

CITADEL [link]

Intern – Equities Data Engineering Team | Jun 2019 – Aug 2019 | Chicago, IL

- Developed usage tracking architecture. Built "milestone" dashboard to track ETL processes. Gained experience with Kafka, Airflow, InfluxDB, Docker, and more.
- Delivered a "lunch and learn" talk on Kafka to the department
- Evaluation/feedback from my manager: *"What makes Roma stand out is her willingness to take on something unknown and her ability to learn it through doing research ... and build that knowledge without hesitation. [This] will make her an exceptional engineer in the future."*