

# 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

- ❖ Concentration: Computer Science (COS) or Operations Research & Financial Engineering (ORF)
- ❖ Certificates: Optimization and Quantitative Decision Science, Statistics & Machine Learning
- ❖ Relevant courses: Adv. Vector Calculus, Adv. Linear Algebra w/ Applications, Algorithms & Data Structures, Fundamentals of Statistics, Adv. Physics (Mechanics), General Physics II, Introductory Logic
- ❖ Member of Princeton Debate Panel, lead SWE on The Daily Princetonian Tech Team, 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); Introduction 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 Helmkamp 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

## EXTRACURRICULARS

- ❖ 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 • HTML • JavaScript • PHP • Swift • React • Node.js • LaTeX • MySQL • PostgreSQL • Firebase • Excel • NumPy + Pandas • MATLAB • Fusion360 • Blender • Flask • PyQt5 • Tensorflow • Apache Web Server • Kafka • InfluxDB • Grafana • Docker

## EXPERIENCE

### ARTIFICIAL INTELLIGENCE FOR 3D DATA – UCHICAGO 3DL [Link]

(UPCOMING) RESEARCH INTERN | June 2022– | Chicago, IL

- ❖ Will work 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.
- ❖ Will work on an extension to the Text2Mesh project.

### CME GROUP [Link]

(UPCOMING) INTERN – PRODUCTION ENGINEERING TEAM | May 2022–Aug 2022 | Chicago, IL

- ❖ Use Robot Framework to implement automation of end-to-end testing for reporting. Will set up the framework and develop customer code using Python (or Java) for order entry, report tasks automation and result validation.

### APPLIED AI/ML AT UCHICAGO SAND LAB [Link]

SUMMER RESEARCH ASSISTANT | Jun 2021–Aug 2021 | Chicago, IL

- ❖ Selected for a research internship at the University of Chicago SAND Lab (Security, Algorithms, Networking, and Data) through the Data Science Institute (DSI) Summer Lab program. I worked with Professor Ben Y. Zhao.
- ❖ Conducted research on physical backdoor attacks in computer vision models. Developed an automated process using graph analysis techniques to uncover viable physical triggers in pre-existing object datasets for training.

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

SUMMER RESEARCH ASSISTANT | Jun 2020–Jun 2021 | Chicago, IL

- ❖ Worked with Dr. Karen Drukker, Dr. Deepa Sheth, and Ms. Lindsay Douglas (PhD candidate) on project about quantitative radiomic analysis for abbreviated/ultrafast breast MRI. Radiomics is high throughput conversion of images to mineable data that can be viewed as descriptors of tumors and “normal” tissue.
- ❖ First author of a research abstract accepted to Optics and Photonics organization SPIE’s Medical Imaging Conference, February 2021—delivered an oral presentation ([Link]). Project involved comparing breast lesion segmentation methods, some of which utilized convolutional neural networks.

### CITADEL [Link]

INTERN AT EQUITIES DATA ENGINEERING TEAM | Jun 2019 – Aug 2019 | Chicago, IL

- ❖ Developed usage tracking architecture. Built “milestone” dashboard to track ETL processes. Gained experience with Python, Kafka, Postgres, REST APIs, Flask, Airflow, Grafana, InfluxDB, and Docker
- ❖ 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 ... Her willingness to take on a new problem where she lacks the domain knowledge and build that knowledge without hesitation will make her an exceptional engineer in the future.”