Sarene Choudhury

360 Central Park West, Apt 5E, New York, NY 10025, USA *Mobile:* +1 917 975 8647
Github: https://github.com/sarenechoudhury   *https://www.sarenechoudhury.com*   *Email*: sareneac@icloud.com

Highly motivated student with strong background in coding and film, and with excellent work ethic and creative abilities. Seeking to apply my computer, data-analysis, and problem-solving skills as an intern at your company.

EDUCATION

University of Chicago, Chicago, IL – Computer Science and Cinema Studies Major   *Class of 2027*
Relevant Coursework:
- **Intro to Computer Science I & II:** algorithms and data structures; recursion; functions as first-class objects; software design.
- **Systems Programming I & II:** machine language programming; performance measurement; system-level I/O; bit-level programming; memory organization.
- **ML Fundamentals: Theory & Practice:** ML models; supervised and unsupervised learning; loss functions; risk; empirical risk and overfitting; regression and classification; clustering; gradient boosting; decision trees; random forests; NNs; deep learning.
- **Discrete Math:** induction; graph theory and trees; set and number theory; combinatorics; sequences; asymptotic equality; rates of growth.
- **Data Science for CS:** measurement; sampling; bias; causal inference; hypothesis testing; correlation vs causation; model fitting; bias–variance tradeoff; clustering; PCA; prediction; model reliability.
- **Expanded Cinema:** studio course; two personal experimental films; final group installation; technical, historical and psychological aspects of the projected image

Horace Mann School, New York, NY   *Class of 2023*
Relevant Coursework: Computer Science Seminar, Theoretical Computer Science, Art of Data, Software Engineering, Calculus, Honors Geometry, Honors Algebra II & Trigonometry, Mobile App Development. Art of Film, Film I, Film II, Film IV.

WORK EXPERIENCE

Quantbot Technologies LP, New York, NY, USA.   Quant Research Intern   *Jun–Aug 2024*
- Built ML models using Keras, Tensorflow, and LightGBM. Tested functions to upgrade company baseline from Python 3.9 to 3.11.
- Researched and tested benefits of quantized gradients in LightGBM models.
- Created DeepChecks API suites for automated model evaluations in an online setting.
- Explored feature generation using OptionsTAQ data for equity-returns prediction.
- Experimented with neural network implementation concerning layer types, normalization, quantization, early stopping, and augmented boosting, and combination models with NN and LGBM implementation.

Breakwater Yacht Club, Sag Harbor, NY. Sailing Instructor.   *Summer 2021 & Summer 2022*
Girls Learning Advanced Math (GLAM), SSAT tutor   *2021-2022*

AREAS OF EXPERTISE

- **Data Science:** Experience in analyzing data sets using Python with pandas (and basic R). Proficient in ML modeling.
- **Programming**: Experience with Python, JavaScript, C, HTML, SQL, CSS, and beginner's R and C#. Built user interfaces using Vue. Created games using Unity. Knowledge of Excel.
- **Finance**: Applied investment concepts to analyze companies. Invested personal summer earnings in specific stocks.
- **Film:** Screenwriting, directing, camera and boom operator, editing. Proficient in Adobe Premiere Pro, experience with Houdini.

MAJOR ACHIEVEMENTS

- **Data Science**: Created an ML model using R to forecast COVID-19 mortality in NYC.
- **Programming**: Coded a Huffman Coding Tree and BFS/DFS algorithms. Front and back-end design of a web application. UX Design and research. Created a programmable LED light cube using Arduino.
- **Film:** Boom operator in full day highschool film shoot as a junior, main camera operator senior year

AWARDS & HONORS

- Director General of Model UN team at Horace Mann. Two-time recipient of Outstanding Delegate award.
- Executive Editor of *Cinemann* (Film and TV Magazine) at Horace Mann.
- Managing Editor of *The Review* (Current Events Magazine) at Horace Mann.

INTERESTS

- Volunteer for and co-run newsletter for GLAM to teach math to middle-school girls.