

Maya Ravichandran

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Education

MPhil in Therapeutic Sciences – University of Cambridge – Cambridge, UK (Fall 2022 – Summer 2023)
• Marshall Scholar; Member of Trinity College

MSc in Advanced Computer Science – University of Oxford – Oxford, UK (Fall 2021 – Summer 2022)
• Marshall Scholar; Member of New College
• Dissertation: Deep Learning for Alzheimer's Disease Genomics, supervised by Prof. Alejo Nevado-Holgado

B.S. in Computer Science – Rutgers University–New Brunswick – New Brunswick, NJ (Fall 2017 – Spring 2021)
• Presidential Scholar; Honors College Scholar; GPA: 3.98/4.00

Coursework: *Graduate* – Massive Data Mining, Machine Learning, Graph Neural Networks, Computational Biology;
Undergraduate – Artificial Intelligence, Data Structures, Algorithms, Biochemistry, Organic Chemistry, Biology

Experience

Software Engineering Intern, MongoDB – New York, NY (Summer 2021)
• Utilized machine learning to predict whether a set of performance tests will have a performance regression given a set of code changes, achieving 0.88 accuracy and 0.79 F1 score using passive-aggressive model
• Scraped commit and diff data from a GitHub repository, combined data with a performance dataset, and completed preprocessing and feature engineering, utilizing Python, Pandas, and Scikit-learn

Software Engineering Intern, MongoDB – New York, NY (Summer 2020)
• Created a data pipeline within the Evergreen open-source continuous integration (CI) system that logs system metrics on the hosts running the CI tests, transforms them into structured data, and stores them in the data sink for access via a REST API using Go, enabling diagnosis of system failures via machine learning and data visualization

Sales and Trading Summer Analyst, Bank of America Merrill Lynch – New York, NY (Summer 2019)
• Designed and priced hedges using a custom basket of equities and an options collar
• Constructed five-year interest rate swap spreads to maximize revenue and minimize risk

Software Engineering Intern, Commvault – Tinton Falls, NJ (Summer 2018)
• Created CSV reports of user activity data and inputted them into ARIMA prediction models using C++ to improve system availability for customers through intelligent scheduling of activities

Research Intern, National Cancer Institute, National Institutes of Health – Bethesda, MD (Summer 2018)
• Identified structural variants in osteosarcoma genome sequences as targets for further research
• Improved accuracy of probabilistic framework for structural variant discovery by eliminating false positives with machine learning

Research Intern, Princeton University – Princeton, NJ (Summer 2016 – Winter 2017)
• Investigated the impact of sulfate attack on the atomic structure of eco-friendly alkali-activated cement
• Analyzed eight million data points from Advanced Photon Source particle accelerator at Argonne National Laboratory
• Identified atomic bonds using Fourier transforms and X-Ray Pair Distribution Function analysis

Skills

Python, R, Java, JavaScript, C++, C, Go, TypeScript, Angular, HTML, CSS, SQL, MongoDB

Projects

Domain Adaptation of CNNs for Diagnosis of COVID-19 Chest X-Rays
• Used domain adaptation to apply a model trained on viral pneumonia chest X-rays to diagnosis of COVID-19 chest X-rays, utilizing Python, PyTorch, and convolutional neural networks
• While the baseline model trained on the viral pneumonia dataset achieved a 49.50% accuracy, the domain adaptation model using domain-adversarial neural networks achieved a 62.25% accuracy with unsupervised learning

Leadership

President, Rutgers Venture Capital (VC) Club (Spring 2018 – Spring 2021)
• Led the design and implementation of various educational/networking events, including a VC and entrepreneur speaker series, startup and investment pitch competitions, and VC internship panels, tripling event attendance
• Led recruitment of 25 individuals to the club board and trained several directors to lead their own committees