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Rishi Malhotra

EDUCATION

Cornell University, College of Engineering, Ithaca, NY **Expected May 2023**
Bachelor of Science, Computer Science GPA: 3.88. Minor Economics.

- ***Courses:*** OOP and Data Structures, Intro Analysis of Algorithms, Functional Programming, Intro Computing, Digital Logic and Computer Organization, Intro Machine Learning, Discrete Math, Single Variable Calculus, Multivariable Calculus, Linear Algebra, Probability and Statistics. *Dean's List (FA19, SP 20)*.

Coursera Deep Learning Specialization **June 2020**

- Gained a profound knowledge of state-of-the-art AI algorithms. Mastered foundations of deep learning (neural networks) and its industry applications (Computer Vision, Natural Language Processing, etc.).

EXPERIENCE

Plugout, Englewood, NJ, *Software Development & Data Science Intern* **July 2020 – August 2020**

- Worked with object detection algorithms YOLO and Faster-RCNN, Genetec APIs and Big Data in a team of software engineers to design machine learning models for real-time high-density crowd counting analytics.
- Programmed scalable multithreaded software and optimized existing industry solutions from 91% to 96% mAP.

Cornell University, Ithaca, NY, *Machine Learning Researcher* **June 2020 – August 2020**

- Worked closely with a researcher to engineer Naïve Bayes algorithms and RNNs for a Natural Language Processing application that detects xenophobic sentiments over social media.
- Achieved an 86% F1 score and reduced GPU runtime by 30%. | https://xenophobia-meter.org/
- Devised white-box and black-box unit tests for the web application.

Cornell Cup Robotics Project Team, Ithaca, NY, *CS Team Member* **September 2019 – May 2020**

- Collaborated with a team of four to develop a chatbot that responded to incoming speech with 89% mAP.
- Transferred the chatbot's backend to an Amazon Web Services (AWS) EC2 instance and established communications between the server backend and client frontend.

QuantM Ltd., New Delhi, India, *Machine Learning Engineering Intern* **August 2018 – September 2018**

- Devised a deep neural network that predicts US real estate prices with 7% Root-Mean-Squared-Error by analyzing trends in economic indicators such as GDP, interest rates, exchange rates.

PROJECTS

Image Steganalysis Classifier for Kaggle **May 2020 – July 2020**

- Implemented a deep learning classifier that detects secret hidden data within digital images as part of a Kaggle competition.
- Achieved an 80% weighted AUC score by applying transfer learning to EfficientNet with Python PyTorch. | github.com/RishiMalhotra920/Image-Steganalysis

Photo OCR Application **April 2020 – June 2020**

- Developed a machine learning application that classifies hand-written characters with 97% accuracy.
- Programmed the Neural Network responsible for the classification from scratch using Python NumPy. | github.com/RishiMalhotra920/Photo-OCR

Email Spam Classifier **April 2020 – June 2020**

- Engineered a deep learning application that classifies spam email with 96% accuracy.
- Implemented a Neural Network responsible for the classification from scratch using Python NumPy. | github.com/RishiMalhotra920/Email-Spam-Classifier

Book Schmo **December 2018 – March 2019**

- Built an E-commerce website with seller and buyer account functionalities for a client.
- Devised a design specification, programmed a full stack website and constructed a relational database using HTML, CSS, JavaScript, PHP, and MySQL. | github.com/RishiMalhotra920/BookSchmo

ACHIEVEMENTS

Cornell University Hackathon 2020 Finalist **February 2020**

- Led a team of five to develop scripts that automated the production of rocket part design and rendered 99% efficient rocket part CAD drawings in Fusion360.

SKILLS & ACTIVITIES

Programming Languages: Python, Java, OCaml, MySQL, HTML, CSS, PHP, Unix/Linux, Git, JavaScript
Libraries & Frameworks: NumPy, Matplotlib, Unittest, Pandas, PyTorch, Django, Flask, Scikit-learn, Keras