Brahm Capoor

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brahmcapoor.com

EDUCATION

Stanford University, Class of 2020
M.S. in Computer Science, concentration in Artificial Intelligence
Relevant courses & work:
- CS 224W: Network Analysis
- CS 228: Probabilistic Graphical Analysis
- CS 110: Principles of Computer Systems
- CS 140: Operating Systems

Stanford University, Class of 2019
B.S. in Symbolic Systems with a concentration in Artificial Intelligence
Relevant courses & work:
- CS 107: Computer Organization and Systems
- CS 103: Mathematical Foundations of Computer Science
- CS 124: From Languages to Information (Natural Language Processing)
- CS 109 : Probability for Computer Scientists
- CS 51 : CS + Social Good Studio
- CS 227b: General Game Playing
- ECON 45: Using Big Data for Social and Economic Problems
- CS 221: Artificial Intelligence
- CS 229: Machine Learning
- CS 224N: Deep Learning for Natural Language Processing
- CS 231N: Convolutional Neural Networks for Visual Recognition

United World College of South East Asia, Class of 2015

SKILLS

LANGUAGES: Python, Ruby, HTML/CSS, Javascript, Java, C++, C
FRAMEWORKS: React + Redux, Tensorflow, PyTorch SciPy stack, Django, Ruby on Rails
OTHER: Public Speaking, Leadership, Creative & Expository Writing, Teaching

HONOURS

- 2019 Centennial TA Award for Excellence in Student Teaching at Stanford
- 2020 Forsythe Award for Excellence in Student Teaching at Stanford University Department of Computer Science
- Nominated for the Boothe Prize for excellence in academic writing

EXPERIENCE

Two Sigma L.P. — **New York City**
Software Engineer — August 2020 - *Present*
Working on validations and controls for trading systems.

Code in Place — **Stanford University**
Head Teaching Assistant — April 2021 - June 2021
Helped administer and teach a free online introductory programming class to 13,000 students and led a teaching staff of 1200 volunteers. Supported course infrastructure, designed teaching materials and taught lectures and supplemental learning sessions.

Facebook — **Menlo Park**
Software Engineering Intern — June 2019 - September 2019
Worked on Machine Learning Dev Efficiency & Automation in the Ads organization, training models and streamlining training processes for core ranking models.

Department of Computer Science — **Stanford University**
CS 106A Head TA — September 2018 - June 2020
Head TA for the largest undergraduate class at Stanford (intro CS) with typical enrollments of 400-500 students. Managed a staff of 40-50 undergraduate section leaders, coordinate with the professor on course direction and logistics, hold my own office hours and help to write assignments and exams.

Bloomberg L.P. — **New York City**
Software Engineering Intern — June 2018 - September 2018
Built a distributed caching system for trade order state data as well as a queryable interface to this data. This will form a key component in Bloomberg's new Asset and Investment Management (AIM) system architecture.

CloudMinds Technologies — **Santa Clara**
Natural Language Processing Intern — June 2017 - September 2017
Worked on signal processing for speech recognition, deep learning for language understanding, and designing and building a backend system to integrate various TensorFlow models with data collection pipelines.

Department of Computer Science — **Stanford University**
CS106A/B Section Leader — Jan 2017 - Present
Undergraduate TA for Stanford's introductory CS courses. Taught a section of 10-12 students and held office hours & interactive grading sessions. Gave multiple guest lectures and wrote new assignments and autograders.First ever senior TA, answering student questions before and after lectures and helping to guide course direction.

Human-Computer Interaction Group — **Stanford University**
Research Intern — 2016
Worked on the HabitLab Google Chrome Extension (**https://github.com/habitlab/habitlab-chrome**).

Center for Cognitive Neuroscience, Duke-NUS Medical School — **Singapore**
Research Summer Intern — 2016
Designed, implemented and tested two psychophysics experiments followed by subsequent data analysis.

European Center for Nuclear Research (CERN) — **Geneva, Switzerland**
High School Summer Intern — 2014
Built and tested resistive plate chamber detectors of the Compact Muon Solenoid experiment in the Large Hadron Collider.

PROJECTS

BlueBook
Application to allow students to do Computer Science exams on their laptops. Building the student client, grading infrastructure and exam authorship pipelines. BlueBook has delivered close to 15,000 exams.

DeepGIFS: Using Deep Learning to Understand and Synthesize Motion (brahmcapoor.com/deepgifs)
Final Project for Stanford's CS 231N: Deep Learning for Computer Vision. Used a convolutional VAE-GAN + LSTM architecture on a synthetic dataset to produce realistic motion from seed frames.

L.A.I.R: Leveraging A.I. for Requests (https://github.com/brahmcapoor/L.A.I.R.)
Final Project for Stanford's CS229: Introduction to Machine Learning. Predicted how long students would need to wait for help at office hours and how long it would take a TA to help them.

Heroes and Villains: What A.I. can tell us about Movies. (https://github.com/brahmcapoor/L.A.I.R.)
Final Project for Stanford's CS221: Artificial Intelligence Techniques and Principles. Used A.I. to identify film protagonists and antagonists, find factions of characters, and cluster scripts based on their archetype.

Mercury (https://github.com/brahmcapoor/Mercury)
A twitter bot that chooses a random emotion every day and generates tweets based on that mood using Markov Chaining on a corpus of around 2000 quotes per emotion, webscraped from GoodReads.