Mathew T. Joseph

2425 Piedmont Ave | Berkeley, CA 94704
914.483.9297 | mtjoseph@berkeley.edu

EDUCATION

University of California, Berkeley | B.A. Computer Science — May 2017

Honors Regents' and Chancellor's Scholar Finalist (top 1.5% of applicants to UC Berkeley)
Cal Alumni Association Leadership Award Finalist (awarded to 150 students out of over 4,500 applicants in the incoming freshman class)

Coursework Structure and Interpretation of Computer Programs, Data Structures and Advanced Programming, Discrete Mathematics and Probability Theory, Machine Structures, Artificial Intelligence, Efficient Algorithms and Intractable Problems, Linear Algebra and Differential Equations

John Jay High School | Regents Diploma with Honors — September 2009-May 2013

Honors In top 5% of graduating class
AP Scholar with Distinction

EXPERIENCE

CS61B Undergraduate Staff | Lab Assistant — Spring 2015 – Present

- On the staff for the course titled "Data Structures and Advanced Programming," with around 1225 students enrolled
- Assisted students in lab and co-ran tutoring sessions and discussion sections

Course Coordinator | Artificial Intelligence — January 2016 – Present

- Working with professors and graduate students to prepare material such as exams, homework problems, and projects for next semesters offering of Artificial Intelligence

Affinion Group | Intern — June 2014 – August 2014

- Worked with PhD statisticians to understand response trends and provide marketing recommendations to businesses
- Assisted with building and ranking linear regression models using SAS to predict response trends based on demographic, geographic, and consumer economic data

SOFTWARE PROJECTS

Pacman Learning Agent — December 2015

- Solved various Pacman-related search problems by implementing search algorithms (A*, DFS, UCS, Minimax, Alpha-Beta) and optimizing heuristics
- Later added handling for Markov Decision Processes to develop an Approximate Q-Learning Pacman agent that had a near 100% win rate in any Pacman map (old or new) after 50 training episodes

Daily Fantasy Basketball Optimal Lineup Automator — January 2016

- Used BeautifulSoup HTML reader to automatically extract data from multiple websites to rank players based on day-to-day matchups
- Used the simulated annealing algorithm to implement Integer Linear Progamming (an NP-Hard problem) to calculate the highest fantasy point output for a certain salary cap
- Adjustable to any fantasy sport, can use any ESPN data table to extract any information needed

Convolutional Neural Network Optimization — June 2015-July 2015

- Took a pre-trained 11 layer Convolutional Neural Network written in C (able to classify 32x32 images), and increased performance by up to 8x using OpenMP and SIMD instructions

Checkers Game with AI — December 2014

- Built a simple, fully functional checkers game with GUI and an AI using minimax from scratch, placing fourth at local Hackathon

TECHNICAL STRENGTHS

Computer Languages Java, Python, Swift, C, Objective-C, JavaScript, SQL, MIPS, SAS, Ruby
Tools & Frameworks Xcode, Git, OpenMP, Apache Spark, Logisim, NetBeans, Microsoft Office, Rails
Software Sublime, Vim, Emacs, SAS Visual Analytics