Carlos Flores

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Education

B.A. in Computer Science
at University of California, Berkeley
graduation: Spring 2017

Projects

Neural Network for MNIST dataset (Python)
I wrote a 1-hidden layer neural network to predict a handwritten digits (MNIST) database. I managed to get 97% on a 40,000 image test set.

Unsupervised Learning Models
I've worked with different unsupervised learning models. I've done a k-means clustering to visualize means on the MNIST data set. I've also used Singular Value Decomposition and Latent Factor Analysis to generate a joke recommender based on overlapping user ratings.

Decision Tree and Random Forests
I wrote a decision tree and random forests module to predict if someone has an annual income greater than $50k. I used data from a census to do the training, the data set included numerical and categorical data.

NBA Finals Sales Visualization (Jquery, CartoDB)
During my internship I worked on creating visualizations on a map of the recorded sales by the warriors and cavaliers during the 2015 NBA Finals. This project gave me experience on translating data into something that we could interpret.

Nerual Network Optimization (C)
Worked on optimizing an existing neural network by using cache blocking techniques, and extensions such as SSE Intrinsic and Intel AVX.

Computing Skills

Python, Java, Javascript, HTML, CSS, InDesign, C, PostgreSQL, MIPS,

Work

Emarketing Intern at Fanatics Inc. (June 2015 - August 2015)
I interned for a sports retail company that powers the e-commerce websites of all major professional sports leagues. I worked on different projects, a sales visualization using CartoDB (a maps platform) and generating keyword suggestions through Google's AdWords API and Keyword Query Reports. This internship gave me insight into the volumes of data that are handled in real world applications. Most of my projects included working with millions of sales data points and being able to process them efficiently.

Undergraduate Student Instructor for CS61B (January 2016 - Present)
I teach data structures at UC Berkeley. The class is taught in Java, and is concerned with tradeoffs between time and memory for structuring data, as well as engineering moderately large programs.

Undergraduate Student Instructor for CS10 (December 2014 - January 2016)
I taught the Beauty and Joy of Computing at UC Berkeley. The class focuses on "big ideas" of computing, such as abstraction, recursion, concurrency, and the limits of computing. Having taught this class has given me the ability to communicate in simple terms computing ideas to people who don't have programming experience.

Relevant Courses

CS188: Artificial Intelligence

CS189: Machine Learning

CS170: Algorithms and Intractable Problems

CS61C: Machine Structures