Roland Chin

Cal ‘21 - Data Science / Computer Science

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Senior at UC Berkeley seeking an internship and/or job to build and apply my skills to real world applications.

EDUCATION

- The Foundations of Data Science
- Structure & Interpretation of Computer Programs
- Discrete Mathematics & Probability Theory
- Principles & Techniques of Data Science
- Data, Inference, and Decisions
- Statistical Methods in Data Science
- Designing Information Devices & Systems
- Data Structures
- Probability for Data Science
- Intro to Artificial Intelligence

EXPERIENCE

zHealthEHR Data Science Intern *May 2020 - Aug 2020*

- Cleaned & analyzed healthcare data from chiropractors to increase customer rates and profit
- Built model to help chiropractors charge more appropriately based on patient data

Applied Statistics: Data Consulting Committee *Sept 2019 - Dec 2019*

- Worked with Grandmark International, an auto parts company in South Africa, to create a new stocking policy based on demand forecasting and customer segmentation
- Utilized a loss function, moving window, and confidence levels to predict optimal turnover quantities for future inventory

Project ATMA, AI Startup Internship *Aug 2018 - Feb 2019*

- Worked with a team of Berkeley graduates and students to create an AI platform that can automatically call 911 through real-time analysis of security camera footage
- Collected videos of emergency footage to train ATMA to recognize such situations with TensorFlow, Google Cloud Platform, and Computer Vision

TEACHING / VOLUNTEERING

Statistics Undergrad Student Association: Education Committee *Sept 2018 - Dec 2019*

- Created material for a DeCal (student run course) on data analysis, specifically for Kaggle
- Hosted and taught weekly programming workshops for fellow college students

Academic Intern / Beta Tester: Foundations of Data Science *Jan 2018 - Jan 2019*

- Assisted GSI with questions and labs, homework, and projects
- Created and shared comprehensive course notes with all students
- Assisted Berkeley MOOCLab with EdX online course launch as beta tester

PROJECTS

Corona Borealis Galaxy Investigation *Oct 2020*

- Utilized bootstrapping to estimate distribution of galaxy velocities in an unfilled survey of the Corona Borealis region
- Tested if velocities followed a multimodal distribution for evidence for the existence of voids and superclusters

USPS Sorting Optimization *May 2020*

- Helped the Oakland Processing and Distribution Center, one of USPS's package depots in the Bay Area, with processing and sorting of packages
- Increased package distribution efficiency by finding optimal number of workers using SIMIO simulation software

Metropolis Algorithm - Baboon Collective Movements *Apr 2020*

- given data on baboons GPS locations and individual binary decisions, determined the posterior distribution for baboon trajectories using the Metropolis algorithm
- under the assumption that baboons are following the larger group, characterized how precise numerical representation is (Weber fraction)

Multidimensional Scaling Algorithm *Feb 2020*

- implemented MDS from scratch to minimize the psychological distances between stimuli reported by subjects
- used gradient descent to minimize the stress to calculate and plot the pairwise distances the MDS found

Neural Network to Classify Digits *Dec 2019*

- implemented a neural network to classify handwritten digits by altering hidden layer sizes, batch sizes, learning rate, and number of hidden layers
- used the ReLU operation for non-linearity and trained models utilizing the loss for gradient-based updates

Mandelbrot Fractal Zoomer *Oct 2019*

- Implemented the Mandelbrot function to transform PPM P3/P6 images into their corresponding pixels using a colormap in C
- Generated a sequence of Mandelbrot iteration images to zoom into a part of the fractal

Pacman Search Agents *Sept 2019*

- Implemented BFS, A* Search, Minimax, Alpha-Beta pruning, and Expectimax for a Pacman game using Python
- Took into account food pellets, energizers, and ghosts

Decryption with Markov Chains *Mar 2019*

- Created a decoder with transition matrices/bigrams to decrypt text encrypted by substitution
- Implemented the Metropolis algorithm in Python utilizing the decoders

Spam/Ham Email Classification *Nov 2018*

- Used multiple linear regression, feature engineering, logistic regression, and cross validation to classify emails with an accuracy of 95% on Kaggle
- Utilized a word cloud to visualize the most common words

NYC Taxi Ride Project *Oct 2018*

- Used SQL to explore a NYC taxi dataset, visualized trip patterns and collision frequencies
- Created a regression model to predict duration of a taxi ride with a result of being off by approx. 3 minutes on trips of avg length 12 mins

Trump's Tweets Evaluation *Dec 2018*

- Utilized the Twitter API to EDA & analyze Trump's favorite times to tweet, which phone he prefers, as well as the overall sentiment trends over time in relation to his elections