Roland Chin

Cal ‘21 - Data Science / Computer Science
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Responsible and organized, able to see the bigger picture and plan accordingly. Seeking an internship to build and apply my skills to real world applications.

EDUCATION

UC Berkeley - Courses

- The Foundations of Data Science
- Structure & Interpretation of Computer Programs
- Discrete Mathematics & Probability Theory
- Principles & Techniques of Data Science
- Efficient Algorithms and Intractable Problems
- Statistical Methods in Data Science
- Designing Information Devices & Systems I
- Data Structures
- Probability for Data Science
- Intro to Artificial Intelligence

Milpitas High School - class rank 4/750, AP Scholar With Distinction, National Merit Commended

EXPERIENCE

Applied Statistics: Data Consulting Committee *September 2019 - December 2019*

- Worked with Grandmark 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 *August 2018 - February 2019*

- Working 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
- Collecting videos of emergency footage to train ATMA to recognize such situation with TensorFlow, Google Cloud Platform, and Computer Vision

City of Milpitas - Lifeguard & Swim Instructor *June - August 2015, 2016, 2017, 2019*

- Taught private and group swim lessons, as well as pre competitive swim team
- Assisted in training of new lifeguards in practice scenarios and emergency rescues

Milpitas High School Varsity Swim Team Captain *June - August 2016*

- Helped host swim meets at our high school pool
- Planned swimmers’ events and lead morning practices and banquets

TEACHING / VOLUNTEERING

Statistics Undergrad Student Association: Education Committee *September 2018 - Present*

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

Academic Intern / Beta Tester: Foundations of Data Science *January 2018 - Present*

- 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

Tzu Chi Math Tutoring Coordinator *August 2016 - June 2017*

- Tutored students in math, leading to grade improvement and principal acknowledgement
- Managed and arranged tutors whose skills best fit with certain students

City of Milpitas Library Head Volunteer *June - August 2015, 2016*

- Helped organize and publicize poetry slams, reading fairs, giveaways, and movie events
- Oriented new volunteers in library tasks

PROJECTS

Metropolis Algorithm - Baboon Collective Movements *April 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, characterize how precise is their numerical representation (Weber fraction)

Multidimensional Scaling Algorithm for Sports *February 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 *December 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 *October 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 *September 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 *March 2019*

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

Spam/Ham Email Classification *November 2018*

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

NYC Taxi Ride Project *October 2018*

- Used SQL to explore a NYC taxi dataset, visualized trip patterns throughout the week as well as collision frequencies
- Created a regression model to predict duration of a taxi ride based on tolls, fares, and duration, among other features, with a result of being off by approx. 3 minutes on trips of avg length 12 mins

Trump's Tweets Evaluation *December 2018*

- Utilized the Twitter API to analyze Trump's favorite times to tweet, which phone he prefers, as well as the overall sentiment trends over time in relation to his election
- Mainly involved data cleaning

Calhacks 5.0 Project - Caesarian Cipher using Rise API *September 2018*

- Created a basic Caesarian cipher using the rise API to encrypt/decrypt text, UX primarily