

Eric Chuu

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Education

Texas A&M University

Doctor of Philosophy, Statistics

Research Interests: machine learning, computer vision, Bayesian inference

Coursework: Probability, Linear Models, Advanced R Programming, Bayesian Statistics

College Station, TX

Expected: 2022

UCLA

Bachelor of Science, Mathematics of Computation

Bachelor of Science, Statistics

Computer Science Coursework: Data Structures, Algorithms, Computer Systems & Organization

Quantitative Coursework: Machine Learning, Monte Carlo Methods, Optimization, Real Analysis, Numerical Analysis

Los Angeles, CA

June 2017

Notable Projects

Facial Reconstruction, Discrimination, Detection

- Reconstructed faces with 20 numbers (originally 256) using principle component analysis to extract key features
- Implemented AdaBoost in Matlab in conjunction with the Viola-Jones object detection framework to develop an algorithm that could identify faces in images with minimal false-positives
- Ported the project to Lua/Torch and used parallelism during the training process to optimize computational performance, ultimately achieving 60x speedup

Rowing Logger

- Collaborated with another rowing enthusiast/computer science student to create an app to extract data from photos of screens attached to rowing machines so that rowers can log times, track progress, and compete against teammates
- Used PyTesseract and OpenCV for the OCR portion, achieving reading accuracy of 90% across variable lighting

Predicting Election Outcomes using Facial/Social Traits

- Created a hierarchical model that predicts the outcome of political elections with an accuracy of $> 60\%$ using *only* images of politicians' faces and their perceived social traits (confident, attractive, energetic, rich, etc.)
- Trained a binary SVM to determine nameable traits (wears glasses, gray-haired, wide-set eyes, etc.) which were then used to train a RankSVM model that assigned social dimensions from a pool of 14 pre-determined traits — these traits were then used as covariates in the final layer of the model to predict winners/losers of elections

Work/Leadership Experience

Texas A&M University Statistics Department

Teaching Assistant

College Station, TX

August 2017 – Present

- Prepare and grade learning material for students in introductory statistics and probability courses (STAT 302)

Department of Medicine Statistics Core

Assistant Statistician

Los Angeles, CA

October 2016 – June 2017

- Aided resident statisticians with data management and developed tools in R that helped with the automation of analyses and tests, thus allowing efficient processing of client data
- Created visualizations in R of client data and consulted with other statisticians and medical professionals to generate appropriate models that would assist medical practitioners in more effectively helping their patients

UCLA Datafest

Planning/Marketing Committee, Competitor

Los Angeles, CA

December 2015 – June 2017

- Awarded runner-up in best visualization category for a descriptive heat map that showed domestic travel trends
- Collaborated with a team of students with diverse backgrounds (Economics, Electrical Engineering, Computer Science) to improve business strategies using datasets provided by Expedia and Ticketmaster
- Organized the marketing end of a data science competition in which UCLA hosted teams from all over California

Skills

- **Programming:** Proficient in Java, Python, R, Matlab; Familiar with C, C++, Lua, Linux/Unix, Git
- **Statistics:** Torch, OpenCV, computer vision, convolutional neural networks, OCR, JMP