Charles Dickens

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EDUCATION

University of California Santa Cruz, Santa Cruz, Ca.
PhD., Computer Science and Engineering, Expected 2024 GPA: 4.00

University of Hawaii, Manoa, Hi
B.S. with Summa Cum Laude,
Computer Engineering and Mathematics Minor, May 2019 GPA: 3.93

UH Community Colleges, Honolulu, Hi
ASNS, Pre-Engineering, August 2016 GPA: 3.9

PROJECTS & PUBLICATIONS

UCSC LINQS Lab: Online PSL
May 2020 - Present
Online PSL is a scalable development of the PSL framework that performs collective inference over evolving graphical models.

- Implemented a client-server architecture for issuing and executing model updates
- Extended an out of core inference algorithm to perform scalable online operations

UCSC LINQS Lab: HyperFair: A Soft Approach to Integrating Fairness Criteria
May 2020 - Present
HyperFair is a general framework for enforcing soft fairness constraints in a hybrid recommender system.

- HyperFair models integrate variations of fairness metrics as regularizations of a joint inference objective function
- Publication presented at the 2020 RecSys Workshop on Responsible Recommendation (FAccTRec)

UHM Collaborative Software Development Lab: Open Power Quality
August 2018 - April 2019
OPQ is an open source solution for distributed power quality data collection, analysis and visualization.

- Developed plugins to classify frequency disturbances and transients using state of the art digital signal processing and machine learning techniques.
- Publication presented at IARIA ENERGY 2019.

UHM Big Data Lab and NSF CSOI: The Polarization of Information
January 2018 - April 2019
Developed a graphical representation of textual information scraped from the web then measured the polarity between different schools of thought with cluster analyses.

- Project funded by the NSF Center for Science of Information

EXPERIENCE

Teaching Assistant UCSC
January 2021 - March 2021 Santa Cruz Ca.
UCSC CSE Teaching Assistant

- Introduction to Artificial Intelligence: January 2021 - March 2021
- Introduction to Algorithms and Analysis: September 2019 - December 2020

Data Science Intern Clari
June 2019 - September 2019 Sunnyvale Ca.
Researched methods and applications for a new sales opportunity similarity metric.

- Demonstrated applications of the metric to department executives and proposed a roadmap for a scalable implementation of the feature
- Created a UI framework for future demos with REACT, SemanticUI, and D3.js

Computer Engineer Intern University Health Partners of Hawaii
April 2019 - June 2019 Honolulu Hi.
Utilized H2O, MapR, and SQL to develop a pipeline for triaging documents for review.

- Improved model accuracy by implementing procedures for hyperparameter optimization, model selection, and feature space dimension reduction
- Added functionality to extract human interpretable information as to why documents where marked for review

Data Science Fellow Hawaii Data Science Institute
June 2018 - June 2019 Honolulu Hi.
Contributed to data science research and applications across a range of disciplines.

- Wrote a course on data wrangling with Python and pandas with Jupyter
- Planned and led workshops on Data Science topics

Math and Science Tutor Online Learning Academy
December 2016 - August 2018 Honolulu Hi.
Tutored STEM related courses from grade school up to the sophomore college level.

SKILLS

Languages: PSL, Java, Python, C, MATLAB, SQL, LaTeX.
Applications: Vi/Vim, JetBrains IDEs, Git/GitHub, VirtualBox

TRAININGS & WORKSHOPS

Researcher Intelligent Systems for Geosciences
August 2018 UH Hilo
Deployed sensors and analyzed data being collected from active fissures.

- Built a dual spectrum imaging sensor using a Raspberry Pi to periodically capture photos of an active fissure.

Team Leader Data Science and Interdisciplinary Teams
June 2018 Purdue University
Invited as team leader for a group of 5 students from Universities across the country and at levels ranging from Undergraduate to PhD candidates.

COURSES

Data Science:
UCSC CSE: Resp. Data Science (A), Machine Learning (A+), Information Theory (A)
UHM EE: Machine Learning (A), Signals & Systems (A+)
Mathematics:
UCSC AM: Convex Optimization (A), Numerical Optimization (A)
UCSC STAT: Applied Bayesian (A+)
UHM MATH: Advanced Linear Algebra (A), Linear Algebra(A+),
Real Analysis(A+), Statistical Inference (A), Calculus(I-IV)(A)
Software Engineering:
UCSC CSE: Algorithms and Analysis (A)
UHM EE: Operating Systems (A), Computer and Network Security (A+)
UHM ICS: Software Engineering II (A)

AWARDS

UCSC Regents Fellowship
NSF CSoI Channels Scholar REU Award
Dean's List 10 Semesters