

Cameron MacKeen, PhD

Data Scientist

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Skills

Programming: Python (pandas, scikit-learn, sqlalchemy, tensorflow, pytorch, flask, pyspark) · Linux shell scripting
R (Rattle) · SQL · Hadoop (Hive) · Java · C++ · MATLAB · Mathematica · Javascript · Ruby · Tableau

Work Experience

Graduate Researcher

UNIVERSITY OF CALIFORNIA, SANTA CRUZ — DR. FRANK BRIDGES

June 2014 - March 2019

- Many research projects resulted in academic publications, awarded Chancellor's Dissertation Fellowship for achievements.
- Analyzed interference patterns of the X-ray absorption fine structure, engineered physical models using high parameter fits.
- Successfully collected and processed data, iterative background characterization with command line and Linux shell scripts.
- Created automated analysis framework with Python to optimize pipeline, redefined lab procedures, and saved 600 manhours.
- Discovered two new, self-consistent algorithms for extracting an asymmetry parameter of a general stochastic distribution.

Data Scientist

SERACARE LIFE SCIENCES — LORN DAVIS

May 2016 - September 2016

- Created precision-incentivized model to maximize profit from \$600k of stagnant inventory, while increasing turnover ratio.
- Employed AWS and cleaned large data sets; began with an analytical overview of test data and imputed sparse features.
- Engineered features and developed a random forest model coupled with an industry-based economic loss function.
- Presented results and strategic roadmap to executives, with explicit short-term action items for next phase of program.

Machine Learning Engineer

UNIVERSITY OF CALIFORNIA, SANTA CRUZ — DR. ARTEM SOKOLOV

July 2015 - October 2015

- Conducted research to improve framework for regularization when predicting drug response from cancer genome.
- Employed elastic net regression on a learning set of DNA sequences, incorporating graph database of domain knowledge.
- Analyzed performance for various pathway weighting schema using R; identified the optimal database for predictions.

Machine Learning Engineer

CONCORD CONSORTIUM — DR. HEE-SUN LEE

January 2015 - May 2015

- Utilized Python to parse and clean log data of students' interactions with computer module, engineered entropy-based features.
- Learned R to use Rattle for statistically analyzing data and developed a binary decision tree model to categorize students.
- Compiled results and protocols in a manuscript; established new link between student understanding and action entropy.

Undergraduate Researcher

UNIVERSITY OF MASSACHUSETTS, AMHERST — DR. ANDREA POCAR

April 2010 - June 2013

- Erected an ultra-high vacuum manifold with a liquid nitrogen plumbing system to cool avalanche photodiodes.
- Constructed a circuit to bias photodiodes, wrote C++ scripts to interface with circuit board firmware for signal analysis.
- Research presented at symposium; awarded an Honors grant and fellowship for exceptional work.

Education

University of California, Santa Cruz

2013 - 2019

PH.D. IN PHYSICS

- Published 6 papers (3 first authors) and collaborated internationally.
- Awarded Chancellor's Dissertation Fellowship.
- Trained multiple students in lab technique and analysis, delegated research tasks, assisted students on individual projects.

University of Massachusetts, Amherst

2009 - 2013

B.SC. IN PHYSICS AND MATH

- Submitted Honors Senior Thesis on research, received an Honors grant and Cervo fellowship.