Christopher Pierse

Biophysicist and Data Scientist

Relocating to San Francisco in May 2017
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Professional Summary

Physics PhD with 6 years of experience in building statistical models to interpret experimental results. Experienced with the techniques of data science through classes, projects, and a machine learning internship. Over 5 years of experience managing and expanding student organizations.

Education

2010–2017 **Doctor of Philosophy in Physics**, *University of California San Diego*, La Jolla.
GPA: 3.9/4.0. Concentration in Theoretical Biophysics.

2006–2010 **Honors Bachelor of Science in Physics and Mathematics**, *Saint Louis University*, St. Louis.
GPA: 3.8/4.0. Biology Minor. Other honors: *Magna Cum Laude*, McNair Scholar, Dean's List (6x).

Professional Experience

2010–2017 **Graduate student researcher**, *University of California San Diego*, La Jolla.
– Developed statistical models to extract quantitative insights from single-molecule experiments.
– Programmed Monte Carlo and Brownian Dynamics simulations and deployed them on clusters.
– Authored 2 scientific Letters and presented research results at 4 multidisciplinary conferences.

2016 **Computer vision and machine learning intern**, *CureMetrix, Inc.*, San Diego.
– Designed neural networks to classify structures in mammograms. Achieved an AUC of 0.995.
– Wrote Python programs to mark, crop, and display regions of interest in mammograms.
– Organized and split 100s of Gb of patient data. Created programs to split future data.

2008–2010 **Teaching assistant for physics labs**, *Saint Louis University*, St. Louis.
– Taught undergraduate students how to perform, assess, and interpret scientific experiments.

2009 **Student researcher (National Science Foundation)**, *University of Minnesota*, Minneapolis.
– Used fluorescent microscopy to study the kinetics of actin polymerization and gene expression.

2008 **Student researcher (National Science Foundation)**, *Keck Graduate Institute*, Claremont.
– Modeled gene regulatory networks to study how perturbations affect phenotype preservation.

Technical Skills

Programming Proficient with Python, MATLAB, SQL, and MapReduce. Familiar with R and Mathematica.
Packages Scikit-learn, Keras (Theano), Caffe, Pandas, OpenCV, and some Flask, NLTK, and PySpark.

Data Science Projects

Champion recommender system: Collected League of Legends player data and used correlations in player preferences to build an implicit recommender system. [Link] [blog post] [github]

Home Depot search relevance (Kaggle Competition, Top 7%): Engineered features from product descriptions and constructed regression models to predict the relevance of search results.

Leadership Experience

2013–2015 **Chair of the Physics Graduate Council**, *University of California*, San Diego.
– Managed student representatives on committees ranging from graduate life to education policy.
– Led negotiations with the physics department on behalf of the graduate students.

2007–2009 **President of the Society of Physics Students**, *Saint Louis University*, St. Louis.
– Expanded club from 5 to 20+ members by organizing competitions, colloquiums, and projects.
– Awarded: "Most Outstanding Small Group" (2008), "National Outstanding Chapter" (2009).