CHRISTOPHER C. STOAFER

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EDUCATION

Columbia University, Graduate School of Arts and Sciences — *New York, NY, 2010-*
Ph.D. Candidate in Applied Physics — *Expected Graduation: December 2015*
M.S. in Applied Physics — *GPA: 3.8/4.0*

California Polytechnic State University — *San Luis Obispo, CA, 2003-2008*
B.S. in Chemistry and Biochemistry — *Graduated Magna cum Laude*
Minor in Physics — *GPA: 3.8/4.0*

Data Science Coursework:

Machine Learning	Advanced Programming	Introduction to Data Science
Modeling Social Data	Algorithms	

TECHNICAL SKILLS

Computer Languages	Python, C
Web Development	D3.js, HTML, CSS
Other Computer Skills	Bash, Git, GitHub, LaTeX, MATLAB, Solidworks
Basic Knowledge	C++, MySQL, JavaScript, PHP, MapReduce

DATA SCIENCE PROJECT EXPERIENCE

For additional project details, see www.chrisstoafer.com/projects.html

Urban Health Repository Systems — Columbia University's SIPA Dean's Challenge
www.columbia.edu/~ccs2142/uhrs/visuals.html — *Semi-Finalists*

- Effectively collaborated in a team of 6 members to build a data-driven startup with a mission of educating Asthma sufferers about harmful environmental exposures, such as building materials and air quality.
- Served as the technology leader; created interactive web data visualizations, using D3.js and Python, to increase public awareness and understanding of potential factors in Asthma exacerbations.

Bitquant — Hackbit: Bitcoin Student Hackathon
www.github.com/cstoafer/bitquant — *Third place in competition*

- Developed an algorithm and script to automatically buy and sell Bitcoin on the Bitstamp market based on the real-time order book, using the Bitstamp API and Python.

RESEARCH AND PROFESSIONAL EXPERIENCE

Columbia University Plasma Lab — August, 2010 - Present
Graduate Research Student — *New York, NY*

- Formulate and conduct experiments related to the study of plasma physics and nuclear fusion.
- Improve and develop data analysis algorithms in Python routines used by the entire lab for understanding plasma conditions from a spectrum of measurements. Techniques include Fourier analysis, signal correlations and convolutions, and high/low pass filtering.
- Managed a data acquisition and database system called MDSplus.
- Designed and built a plasma diagnostic system called Thomson scattering, requiring hardware/software interfaces, signal fitting, maximum likelihood analysis, and database management.

Lawrence Livermore National Laboratory Summer, 2007 & Summer, 2010
Research Intern *Livermore, CA*

- Conducted a novel, high-energy Thomson scattering experiment and published the results with a small team.
- Developed data analysis software for X-ray Thomson scattering experiments with an aim to standardize, improve, and speed-up data analysis processing. Data analysis included curve fitting, baseline subtraction, and Gaussian peak fitting.
- Designed a high-energy electron spectrometer by developing a 3-D relativistic electron propagation computer simulation using the Runge-Kutta method for determining electron trajectories through a magnetic field.

KLA-Tencor June, 2008 - February, 2010
Applications Engineer *Milpitas, CA*

- Generated analytical reports presenting the defect inspection results of samples from potential customers for the evaluation of our products.
- Consulted for more than ten companies worldwide teaching clients how to operate semiconductor defect inspection systems and develop algorithms to detect and classify their defects of interest.
- Managed customer requests through direct interaction and facilitated product development by working with engineering and marketing teams to fulfill these needs.

LEADERSHIP AND EXTRACURRICULAR EXPERIENCE

Columbia Data Science Society, 2014 - Present
Website Development Lead: columbiadatascience.github.io
Event coordinator for interfacing the student organization with industry, i.e. career panels and networking.
Graduate Student Liaison, 2010 - Present
Organize social events in my graduate school department to promote faculty and student interactions.
New York Academy of Science, 2011 - 2012
STEM Mentor - coached after-school activities in robotics to middle school student
Alpha Chi Sigma (Professional Chemistry Fraternity), 2005 - 2008
Vice-President, 2006-2007, President, 2007-2008
Increased active enrollment from 30 to 70 members.
Player on Columbia Men's Hockey Team
Second degree black belt in Tae Kwon Do

HONORS AND AWARDS

Cal Poly Dean's list and President's list
Physical chemistry student of the year, 2007
Analytical chemistry student of the year, 2008
Golden Key Honour Society member
National Society of Collegiate Scholars (NSCS) member