CHRISTOPHER C. STOAFER

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EDUCATION

Columbia University, Graduate School of Arts and Sciences — *New York, NY, 2010-2015*
Ph.D. in Applied Physics — *Plasma Physics and Nuclear Fusion*
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*

RESEARCH AND PROFESSIONAL EXPERIENCE

Capital One Labs — July, 2015 - Present
Senior Data Scientist — *New York, NY*

- As a data science lead, engage with a team in Small Business Credit Card to explore, ingest, and combine public and external data sources with internal data, driving data enrichment of small business entities.
- Designed and implemented an unsupervised model to detect anomalous spending and payment behavior of small businesses using Python and scikit-learn.
- Managed a team in developing an internal text mining and natural language processing package in Python, promoting a generalized toolkit and text mining community across Capital One.
- Promoted from Senior Associate to Principal Associate in July, 2016.

Columbia University Plasma Lab — August, 2010 - July, 2015
Graduate Research Student — *New York, NY*

- Formulated and conducted experiments related to the study of plasma physics and nuclear fusion.
- Improved and developed data analysis algorithms in Python used by the entire lab for understanding plasma conditions by interpreting several diagnostic measurements.
- Designed and built a plasma diagnostic system called Thomson scattering, requiring hardware/software interfaces, signal fitting, maximum likelihood analysis, and database management.

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.

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

- Conducted a 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. This included curve 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.

TECHNICAL SKILLS

Computer Languages	Python, HTML, CSS
Other Computer Skills	Unix, Hadoop, Git, GitHub, LaTeX, MATLAB
Basic Knowledge	Spark, SQL, C, JavaScript, D3.js

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.

LEADERSHIP AND EXTRACURRICULAR EXPERIENCE

Columbia Data Science Society, 2014 - 2015
Website Development Lead
Event coordinator for interfacing the student organization with industry, e.g. career panels and networking.
Graduate Student Liaison, 2010 - 2015
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 a group of 20 middle school students.
Alpha Chi Sigma (Professional Chemistry Fraternity), 2005 - 2008
Vice-President, 2006-2007, President, 2007-2008
Increased active enrollment from 30 to 70 members through recruitment and promoting member activity with interactive events, such as community science fairs and outreach.
Player on Columbia Men's Hockey Team
Second degree black belt in Tae Kwon Do

HONORS AND AWARDS

Capital One Labs Building Block Award for work on text mining toolkit
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