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Degree: When, where, what, and what in?

I completed my PhD in physical oceanography at the University of Washington in 2006. My thesis involved computer modeling of natural climate variability in the North Pacific Ocean.

Did you stay in academia at all, and if so, for how long?

I did two postdocs from 2006 to 2011 at the University of British Columbia (UBC), modeling upwelling through continental shelf canyons and entrainment in shallow cumulus clouds. Initially, my goal was to find a permanent position either in academia or working for the Canadian federal government, but it soon became clear there were few permanent jobs in climate research available in Vancouver. However, my wife had found an excellent job with the public library, so we decided to stay in Vancouver. I spent another year working at UBC as a sessional instructor before moving into a programming career.

How did you go about searching for a job outside of the university setting?

During my PhD work, I spent some time learning the Python programming language, which has many libraries for scientific analysis and numerical processing. Python is also used for Web development and data analysis by many companies, including Google, Dropbox, and Mozilla, and I figured it was a good job skill to have if I ever left academia. With this relatively small programming background, I set out to find employment as a software developer.

The software development industry makes extensive use of job search websites such as Indeed.com, careers.stackoverflow.com, and Angelist.co. My job search strategy was to apply to every job on these sites that I was remotely

qualified for, with a focus on positions like “data scientist” or “data analyst.” I focused on smaller companies and startups that did data analysis as part of their business, as I found they were more likely to be interested in a programmer without formal training than a large, well-established software company.

Is this the only job (post-academia) that you’ve had? If not, what else did you do?

After sending out about 20 resumes over the course of six months, I was hired by the social networking and art website DeviantArt.com to do statistical analyses of their user and image data. I calculated usage statistics from Web server logs, generated search metrics to rank popularity of media on the site, and built classification systems to categorize images. Since the site hosts over 300 million images, a large part of this work was ensuring our algorithms could run efficiently in parallel on computer clusters. Surprisingly, I found that many of the statistical distributions used to describe cumulus cloud populations can also model user behavior on the Internet, so some of my previous academic work was directly applicable to the job. My position with DeviantArt.com lasted slightly less than two years before I was laid off.

What is your current job? What path did you take to get there?

After four months of searching, I accepted a data engineer position with EnerNOC, a company that provides energy management and monitoring services to utilities around the world. I write code to help transfer data in and out of data stores and translate statistical models developed by my team in the R programming language into Python for running on Web servers. Many of my team members recently



completed PhDs in fields such as glaciology, particle physics, and electrical engineering, and have very little formal training in programming. Our main work is doing time series analysis of utility energy usage to improve their efficiency.

What did your oceanographic education (or academic career) give you that is useful in your current job?

I use my academic training in data analysis, statistical techniques, and programming every day in my current job, but there are many other skills I have found profoundly useful. The work I did generating plots for academic publications taught me graphic design and data visualization skills, which I use for building user interfaces. Through participating in seminars and academic conferences, I developed public speaking and presentation skills that are incredibly valuable for working with other teams in industry.

Is the job satisfying? What aspects of the job do you like best/least?

I would say that my current career is less satisfying than academia, but I have better work/life balance and overall I am happy with the change. The part of the job I like least is the lack of a larger mission and social purpose beyond achieving commercial success.

Having said that, there are many parts of the job that I like better than academia. I am much better paid, my job is easier and less frustrating, and I rarely take work home with me. To my surprise, I find that private industry is often more collaborative than academia, requiring close coordination among many teams to complete projects. One of my main worries about switching careers was that I would be bored, but instead I find myself constantly learning and being challenged.

Do you have any recommendations for new grads looking for jobs?

First, developing coding skills in a relatively mainstream programming language like Python, R, C++, Java, or Javascript is invaluable. Nearly every company has some need for these kinds of skills, and they are extremely useful in academia as well.

Second, I found persistence was the most important thing for job searching. There's a lot of rejection involved in a job search, and this can be quite demoralizing. If you apply for a job you think you are very suited for and are rejected (or more often, receive no response at all), move on and send out a resume to another company. Eventually, someone will hire you.

Finally, don't underestimate the value of your degree. A graduate degree implies many valuable personality traits, including intelligence, motivation, and self-discipline, as well as writing, teaching, and project management skills. This (plus a willingness to work hard and learn quickly) can make you a contender in many cases where you'd otherwise be considered unqualified. 