Industry Insight From:
Jeffrey van Santen

**Jeffrey van Santen, MSc.
Developer and Data Scientist,
Linington Research Group,
Simon Fraser University**

Skills

Jeffrey has spent his professional life working for institutions of higher education as a developer, data scientist, and occasionally an instructor. His skills include computer programming, data analysis, and machine learning.

Because of his educational background in chemistry Jeffrey has had the unique opportunity to apply his computational skills to chemistry leading to several publications and his current position, developing a chemical database in collaboration with Dr. Roger Linington at Simon Fraser University.

Natural Products Atlas

Jeffrey's work with the Linington Research Group is focused on developing and maintaining The Natural Products Atlas, an open access database of natural products from microbial sources or derived from microbial sources.

NP Atlas links chemical structures to bioactivity and spectroscopic data.

The Natural Products Atlas can be accessed at:

https://www.npatlas.org/

Education

Jeffrey first obtained his Bachelor of Science degree at the University of British Columbia with an Honours in computational chemistry and a minor in mathematics. Jeffrey graduated with his MSc in computational chemistry from UBC in 2017.

Despite his chemistry background Jeffrey always felt more like a computer scientist than a chemist. He supplemented his formal education with online courses in programming and data science to broaden his skills in those fields and began job hunting.

Getting the Job

While looking for a job Jeffrey applied to a wide range of jobs and fields that would put his computational skills to work including test engineering and cryptocurrency.

Eventually Jeffrey ended up in a job that not only uses his skills as a programmer but his background in chemistry. Jeffrey is now working on developing the Natural Products Atlas.

The Day-to-Day

Currently, Jeffrey is working on maintaining the internal database for the Linington Group and continuing to do data analysis for his colleagues in research. His skills as a programmer are sought after by students in the lab seeking help with their own data analysis.

The Natural products Atlas is in a state of constant development. Jeffrey is working to build a functioning API (application programming interface) for NP Atlas.

Jeffrey's job, like other jobs in data science is one of constant learning, making a job in data science an attractive option to anyone with a drive to keep learning throughout their professional career, or for anyone who would prefer to work from home (which Jeffrey does most of the time).

Skills

Data science and computer science in general are growing fields. Kids in primary school now learn some basic programming concepts in anticipation of the growing demand. Jeffrey expects the field to continue growing but for the role of a data scientist to change as time goes on.

Jeffrey recommends that anyone looking into a career in data science become familiar with fundamental statistics as well as learning the in-demand programming languages.

What's Exciting?

Tackling novel and interesting problems is an exciting part of the job for Jeffrey. While programming is an excellent tool there is a creative side to the problem solving and development.

What's Challenging?

"Garbage in, garbage out!"

While there are perks the job can be tedious. Sometimes Jeffrey finds himself manually combing through data, auditing it before he commits to analyzing it.

Jeffrey has had no mentor in his current job. He is the lead developer on a new and ambitious project. He is more deeply involved in the research group than he initially expected.

Advice for Students

The data science career can be challenging but is very accessible. There are many online resources available to anyone who wants to learn a programming language or expand their skills set.

Students should expect to spend 5-10 years at an entry-level position if they are going into the data science field.

Because of this, Jeffrey recommends students find a way to start working on programming projects or in fields where they can gain experience as soon as possible.

Written by Bradley Davis, M.Sc. Trainee

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