Career Sheet: Meteorology-Oriented Data Scientist

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During high school, I greatly enjoyed math, physics and chemistry. I studied theoretical physics at Comenius University in Bratislava. I obtained my PhD. in theoretical chemistry at the Julius-Maximilians-Universität Würzburg. Later I worked as a researcher in theoretical chemistry at the ETH Zurich, Zurich University and as a researcher in applied informatics at the Slovak Technical University.

OVERVIEW OF THE JOB

My current job is meteorology-oriented Data Scientist. We collect data from different sensors, cameras and radars and analyse it with computer programs to help meteorologists. We need a lot of mathematics and some programming to work with the data and a lot of curiosity.

WHAT INSPIRED YOU

I like solving puzzles and could not decide which STEM subject (mathematics, physics, chemistry, computer science) I liked the most. This job allows me to use all of them at the same time.

TYPICAL WORKING DAY

In the morning, I check whether my computer programs have finished running. Then I attend a meeting with experts in meteorology, radars, programmers and other data scientists, and we discuss progress on a problem we are solving and determine the next steps. Afterwards, I write computer programs, analyse data, think about it and read scientific papers.

STUDY & CAREER PATH

I have studied physics at university, chemistry as a PhD., worked as a theoretical chemist and, by chance, landed in applied informatics. If I could start all over, I would seriously consider studying computer science. When I started with machine learning, I greatly benefitted from Machine Learning Courses on Coursera. I also regularly watch YouTube videos and read blogs by Andrew Ng. My colleagues have studied mathematics.

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Data Analysis – I look at the data we have collected and try to find out its properties by simple statistical methods.

Problem-solving – I often have to deal with incomplete data and come up with ways to correct it.

Research – I have to read a lot of scientific research papers about machine learning and meteorology, I also test new methods to judge their performance on my tasks.

Collaboration – Data Science is a meeting point of several disciplines; I often collaborate with experts in different fields.

Active Listening – I have to find out a lot of background information before I can start working on a problem.

Presentation – I present my findings to different stakeholders.

Data Presentation – I often have to present conclusions based on available data.

Programming – In order to analyse data and make predictions, I write computer programs in python.

Database Administration – Sometimes we need to access data stored in databases.

Artificial Intelligence – I usually use artificial intelligence for most of the classification and prediction tasks.

Strategic Planning – When I start working on a project, I have to plan ahead – data collection, data preparation, data analysis, model validation, model testing and implementation of the best model of production.

Curiosity – This is my main motivation for choosing this job, I get to discover how things work.

Team spirit - My job requires working together with colleagues from many different departments.

With my skills I can work as a data scientist in all kind of industries.

The main challenges are programming skills and out-of-the-box thinking to solve unexpected problems.

Stay curious and learn to code.
YOUR ADVICE TO TEACHERS AND PARENTS

Help the students discover patterns by performing experiments, collecting data points and building hypotheses.

LEARN MORE

https://www.youtube.com/c/Deeplearningai/
https://experiments.withgoogle.com/collection/ai

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