# 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 Coursers on Coursera. I also regularly watch YouTube videos and read blogs by Andrew Ng. My colleagues have studied mathematics.

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## KEY SKILLS

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 to have 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.

## CAREER PROSPECT

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

## CHALLENGES

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

## YOUR ADVICE TO STUDENTS

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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