



# TOBIAS HÖLZER

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## ABOUT ME

I am Tobias Hölzer, a 21 years old, ongoing data scientist. I am focusing my work on climate change and hope to one day combine skills from different fields to help protect the world from climate disasters. I have already worked in many areas of IT and am particularly talented in the development and implementation of full-stack applications. I can follow a machine learning model through its entire life - from idea to research to production. You can visit my portfolio ([tobiashoelzer.de](https://tobiashoelzer.de)) for a showcase of my past work.

## EXPERIENCE

**DEZ 2022 – NOW**

**WORKING STUDENT | IBM – CONSULTING SUSTAINABILITY**

I am currently working in a project related to a big German car manufacturer and fulfil the role of a Data Engineer.

**NOV 2022 – NOW**

**LECTURER | DHBW STUTTGART**

Last November it was possible for me to gain experience as a lecturer for the first time. I held two lectures in the subject Advanced Machine Learning.

**AUG 2022 – OCT 2022**

**INTERN / COOPERATE STUDENT | IBM – WEATHER COMPANY**

Again, I worked on the analysis of forest-health and deforestation in Europe. This time I focussed more on scientific methods analysing the health of specific trees.

**OCT 2021 – SEP 2022**

**DATA ENGINEER | DHBW-ENGINEERING**

In my last year at the DHBW I was (am) part of the DHBW Engineering. The engineering is a student association which builds a real, electric race car and participates in Formula Student competitions worldwide. There I learned a lot about mechanical and electrical engineering. Besides my main work package, a data engineering tool, I also developed new concepts for the storage of our measurement data, did vehicle dynamics data analysis, wrote a localisation algorithm for the driverless-software and helped my comrades with everyday tasks like the production of carbon parts.

**JUL 2022 – AUG 2022**

**TUTOR | DHBW STUTTGART**

In my last year as a student at the DHBW Stuttgart I helped younger students to learn programming in Python.

**FEB 2022 – APR 2022**

**INTERN / COOPERATE STUDENT | IBM – RESEARCH ZURICH**

In this internship I wrote my bachelor's thesis about another climate topic: flood-detection. In this work I used computer vision to find floods on remote sensing data with the overall goal to create a larger data set for research in other fields.

**AUG 2021 – NOV 2021**

**INTERN / COOPERATE STUDENT | IBM – WEATHER COMPANY**

I further focussed my work on climate in this internship with the analysis of forest-health and deforestation in Europe. I worked with Big-Data Platforms like IBM Pairs and remote sensing data from the Sentinel programme.

**JUN 2021 – AUG 2021**

**INTERN / COOPERATE STUDENT | IBM – RESEARCH UK**

At the research team in the UK, I worked on the entity-linking-problem, a subtask of natural language processing. There I developed a Python-ML Framework based on Pytorch and proposed a new model-architecture based on the BERT language model. The model is used in a project which helps scientists fight climate change.

**NOV 2020 – FEB 2021**

**INTERN / COOPERATE STUDENT | IBM – MASTER DATA MANAGEMENT**

My Tasks at the MDM developer team were the configuration of CI/CD pipelines for several projects with Docker, K8s and Travis, as well as testing the new IBM Code-Engine service.

**JUN 2020 – SEP 2020**

**INTERN / COOPERATE STUDENT | IBM WATSON CENTER MUNICH**

At the developer team at the IBM Watson Center in Munich I developed a trustful visualization for a swarm intelligence algorithm which can predict potential water leaks in a building. Within this project I also wrote a scientific paper about trustful visualizations.

**JAN 2020 – MAR 2020**

**INTERN / COOPERATE STUDENT | IBM DIGITAL SALES**

In my first Internship at IBM, I developed a data analytics dashboard which uses the IBM Natural Language Processing Services to extract customer needs. I also maintained other NLP Projects.

## EDUCATION

**OCT 2022**

**BACHELOR OF SCIENCE | DUALE HOCHSCHULE BADEN-WÜRTTEMBERG**

Cooperate Internship at IBM. In Germany it's called 'Duales Studium'. It is the main reason for my many internships at different departments at IBM. – Grade: 1.5

**JUN 2019**

**ABITUR | HUMBOLDT GYMNASIUM BERLIN**

German Highschool Graduation – Grade: 1.4 - Points: 757 of possible 900

## QUALIFICATIONS

- Full-Stack Web-Development
- Docker, K8s & Cloud-Development
- Project & Architecture planning
- Computer Science
- Machine Learning & AI
- Scientific Work

## PROGRAMMING LANGUAGES

- Python
- Rust
- SQL (I know it's not exactly a programming language)
- JavaScript
- TypeScript

**A full list of my qualifications, languages, frameworks etc. can be found at my portfolio ([tobiashoelzer.de](https://tobiashoelzer.de))**