



# Joe Schmit

Data Scientist

## Professional Experience

### Data Analytics Intern

BMW, Munich, 09/2023 - 02/2024

Developed and deployed an ML model for noise classification using PyTorch and AWS Sagemaker. Designed and scheduled ETL pipelines using SQL and PySpark to load vehicle sensor data into Palantir Foundry. Built a Plotly application for near real-time analysis of test drive data.

### Product Management & Application Developer Intern

Celonis, Munich, 09/2022 - 02/2023

Engineered SQL-based ETL pipelines to integrate data from CRM/ERP systems into the Celonis Execution Management System. Developed process mining applications using SQL, JavaScript, and HTML. Implemented GitHub CI/CD automated actions to streamline code reviews and deploy updates efficiently. Created an automated workflow to report application usage metrics and identify potential tracking outages.

### Teaching Assistant

Technical University of Munich, 04/2021 - 09/2022

Analysis for Computer Science, Data Analysis and Visualization in R, Discrete Probability Theory, Linear Algebra for Computer Science

### Research Intern

Technical University of Munich, 04/2020 - 08/2020

Benchmark testing a simulation engine in C++ for partial differential equations modeling natural disasters such as earthquakes and tsunamis.

## Education

### Mathematics in Data Science (M.Sc.)

Technical University of Munich, 10/2021 - 10/2024

Machine Learning, Statistics, and Data Engineering (German Grade: 1.6)

Seminar: Computational Pathology

- Impact of adversarial attacks on various ML architectures

Thesis: Trajectory Prediction using Denoising Diffusion Models

- First diffusion-based model for trajectory prediction on graphs
- Used PyTorch for model development and diffusion algorithm

### Engineering Science (B.Sc.)

Technical University of Munich, 10/2018 - 09/2021

Interdisciplinary engineering program of 210 ECTS (German Grade: 2.1)

Thesis: Availability Analysis of Optical Sensors using Autonomous Driving Data

- Performance comparison between various optical sensors
- Road segmentation using OpenCV

### Management and Technology (B.Sc.)

Technical University of Munich, 10/2017 - 09/2018

### Highschool

Lycée de Garçons Luxembourg, 09/2010 - 06/2017

Mathematics, Physics, Chemistry, Biology (German Grade: 1.0)

## Technology

### Programming Languages

- Python: PyTorch, scikit-learn, OpenCV, numpy, pandas
- R: tidyverse, XGBoost
- SQL: MySQL
- C++

### Cloud

- AWS Sagemaker
- Azure
- Spark

### Data Visualization

- Plotly
- Tableau

### DevOps

- Git: CI/CD
- Docker

## Languages

- German (native)
- English (fluent)
- French (fluent)
- Luxembourgish (native)
- Italian (B1)

## Interests

**Sports:** Football enthusiast, avid runner, swimmer, cyclist, and skier

**Cooking:** Asian food and hosting dinners for friends

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🌐 github.com/schjo480