

# Markus Bilz | Data Scientist

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in markus-bilz • 🐙 KarelZe • 📄 5755604/karelze

## Skills

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Programming Languages: python (advanced), java (basic), and SQL (basic)

Libraries: CatBoost, Hydra, jupyter, matplotlib, MLflow, NumPy, optuna, pandas, pytest, PyTorch, scikit-learn, sklearn-onnx, and wandb

Software Development: git, jupyter, and linux

Languages: German (native) and English (fluent)

## Work Experience

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### Working Student Data Science.....

Atruvia AG

Karlsruhe, DE

Jul. 2023 – today

Selected tasks:

- Design and reimplement data science pipelines for fraud detection using pandas, PySpark, PyTorch, and Scikit-Learn.
- Develop sklearn-compatible estimators and their corresponding onnx converter using sklearn-onnx.
- Extend data science pipelines with the experiment tracking solution MLflow.
- Extend data science pipelines with the configuration management solution Hydra.

### Product Specialist.....

Fiducia & GAD IT AG (now Atruvia AG)

Karlsruhe, DE

Oct. 2019 – Jun. 2021

Selected tasks:

- Analyze service tickets in third-level support for the agree21 loan processing application.
- Write specifications for the agree21 loan processing application for loans in local and foreign currency.
- Create application-specific reports.
- Conceptualize and maintain automated regression tests.

### Banking Professional.....

Raiffeisenbank Aschberg eG (now VR-Bank Donau-Mindel eG)

Holzheim, DE

Mar. 2014 – Aug. 2016

Selected tasks:

- Create and perform regular reports and business analyses at the bank level.
- Generate application-specific reports.
- Further develop and maintain the overall bank control system while adhering to regulatory requirements.

## Education

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### Master's in Business Informatics.....

Karlsruhe Institute of Technology

Karlsruhe, DE

Apr. 2021 – today

Selected courses: machine learning, recommender systems, deep learning for asset pricing, data privacy, derivatives, and valuation. Current GPA: 1.4 (Top 10%)

Selected Works:

- Master's Thesis: Option Trade Classification using Machine Learning. Available at <https://github.com/KarelZe/thesis>
- Seminar Paper: Predicting Stock Returns with Option Data.

## Preparation for Master's in Business Informatics.....

Karlsruhe Institute of Technology  
Computer Science  
Selected courses: linear algebra and analysis. Earned credit for master's studies.

Karlsruhe, DE  
Oct. 2019 – Mar. 2021

## Bachelor's in Business Informatics.....

Baden-Wuerttemberg Cooperative State University and Fiducia & GAD IT AG  
Selected courses: software engineering, programing techniques, mathematical and business fundamentals.  
Achieved GPA: 1.2 (Top 10%)

Karlsruhe, DE  
Oct. 2016 – Sep. 2019

## Exchange Semester.....

University of Abertay  
Selected courses: parallel computing, software development for mobile devices, and financial markets. Achieved GPA: 1.0

Dundee, UK  
Jan. 2018 – Jun. 2018

## Advanced Technical College Entrance Qualification.....

Berufsschule Plus  
Achieved GPA: 1.0

Lauingen, DE  
Sep. 2011 – Jul. 2014

## Vocational Training.....

Raiffeisenbank Aschberg eG  
Achieved GPA: 1.6

Holzheim, DE  
Sep. 2011 – Feb. 2014

## Scholarships

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BMBF  
Vocational Training Programme for the Highly Talented  
German Academic Exchange Service  
PROMOS Scholarship

Sep. 2018 – Sep. 2023  
Jan. 2018 – Jun. 2018

## Awards

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Baden-Wuerttemberg Cooperative State University  
Outstanding student award in business informatics

Karlsruhe, DE  
2019

## Volunteer Work

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Baden-Wuerttemberg Cooperative State University  
Academic Supervisor  
Supervise project and bachelor's theses with a focus on machine learning.

Karlsruhe, DE  
Jun. 2021 – today

## Hobbies

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Hiking, cooking, and passive investing