

# Markus Bilz | Data Scientist

Mathystr. 14-16 – 76133 Karlsruhe

☎ 0171 2842023 • ✉ [cv@markusbilz.com](mailto:cv@markusbilz.com) • 🌐 [www.markusbilz.com](http://www.markusbilz.com)  
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 – Dec. 2023

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 – Jan. 2024

Selected courses: machine learning, recommender systems, deep learning for asset pricing, data privacy, derivatives, and valuation. Achieved GPA: 1.3 (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 Karlsruhe, DE  
 Computer Science Oct. 2019 – Mar. 2021  
 Selected courses: linear algebra and analysis. Earned credit for master's studies.

Bachelor's in Business Informatics.....

Baden-Wuerttemberg Cooperative State University Karlsruhe, DE  
 Oct. 2016 – Sep. 2019  
 Selected courses: software engineering, programing techniques, mathematical and business fundamentals.  
 Achieved GPA: 1.2 (Top 10%)

Exchange Semester.....

University of Abertay Dundee, UK  
 Jan. 2018 – Jun. 2018  
 Selected courses: parallel computing, software development for mobile devices, and financial markets. Achieved GPA: 1.0

Advanced Technical College Entrance Qualification.....

Berufsschule Plus Lauingen, DE  
 Sep. 2011 – Jul. 2014  
 Achieved GPA: 1.0

Vocational Training.....

Raiffeisenbank Aschberg eG Holzheim, DE  
 Sep. 2011 – Feb. 2014  
 Achieved GPA: 1.6

## Scholarships

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BMBF  
 Vocational Training Programme for the Highly Talented Sep. 2018 – Sep. 2023  
 German Academic Exchange Service  
 PROMOS Scholarship Jan. 2018 – Jun. 2018

## Awards

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Baden-Wuerttemberg Cooperative State University Karlsruhe, DE  
 Outstanding student award in business informatics 2019

## Volunteer Work

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Baden-Wuerttemberg Cooperative State University Karlsruhe, DE  
 Academic Supervisor Jun. 2021 – today  
 Supervise project and bachelor's theses with a focus on machine learning.

## Hobbies

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Hiking, cooking, and passive investing