


# Katharina Ditler




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## EXPERIENCE

-  **02.2019 - 07.2023**   **Physikalisch-Technische-Bundesanstalt**
- **Automation Engineer** - Fully automated the experimental explosion process of dust, vapor, and hybrid mixture explosions in a 20l sphere using LabView. Over 500 successful explosions and measurements were completed.
  - **Data Scientist** - Used Python to develop data analysis algorithms to determine key parameters of explosion security.
  - **Full Stack Developer:**
  - Optimized the Database CHEMSAFE, dramatically improved the schema, eliminated data duplication and redundancies.
  - Developed and designed both the backend and frontend of the current online version of CHEMSAFE. Increased user adoption by over 400%.

## EDUCATION

-  **10.2020 - 10.2023**   **Technical University Braunschweig**
- **Master of Science** - Computer Information Systems
  - Publication: Tracking Activities of Daily Living in the Home Office
  - **Master Thesis:** Designed a Classification Algorithm to differentiate between valid and invalid steering-wheel ECG signals utilizing car data from CAN-bus signals - (100% grade received)
-  **09.2016 - 09.2020**   **Ostfalia University of Applied Sciences, Wolfenbüttel - Bachelor of Engineering**
- **Bachelor Thesis:** Development of an algorithm for the evaluation of measurement data to determine key parameters of explosion protection using Python.
-  **09.2018 - 12.2019**   **University of Manitoba**
- Exchange Term, with scholarship

## PROJECTS

- Designed and implemented a driver interface for an electric race car, formula student team wob-racing.
- Developed a SARIMA Time Series Forecasting Model for Climate Change Prediction.
- Developed a Python script for real-time web scraping and monitoring of Aurora data, with automated notifications triggered when northern lights activity is detected. Leveraged Google Cloud Platform for data storage and processing.

## TECHNOLOGIES

SQL	●	●	●	●	●
HTML	●	●	●	●	●
PHP	●	●	●	●	●
CSS	●	●	●	●	●
JavaScript	●	●	●	●	●
React	●	●	●	●	●
LabView	●	●	●	●	●
Typo3	●	●	●	●	●
Python	●	●	●	●	●
Tensorflow	●	●	●	●	●
Keras	●	●	●	●	●
PyTorch	●	●	●	●	●
scikit-learn	●	●	●	●	●
Selenium	●	●	●	●	●
Beautiful Soup	●	●	●	●	●
GCP	●	●	●	●	●
Java	●	●	●	●	●
C++	●	●	●	●	●

## LANGUAGES

German	C2 (Native)
English	C1
Russian	C1
French	A1

## HOBBIES & INTERESTS

- Competitive Gymnastics, 20 years
- Volunteer gymnastics coach
- Piano for 7 years
- Tennis
- Competed internationally in Calisthenics
- Wakeboarding

## REFERENCES

**Dr. Sabine Zakel**  
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