

JAN VRABLICZ

Education:

2021 – 2023

Master Data Intelligence (Dipl. Ing.)

University of Applied Science St. Pölten

Diploma Thesis:

“Sampling Strategies and Bias Mitigation - Analyzing the Impact of Various Sampling Approaches on Bias Mitigation Methods”

2018 – 2021

Bachelor Data Science and Business Analytics (BSc.)

University of Applied Science St. Pölten

Bachelor Thesis:

“Using Multi-Instance Learning to embed dynamic states for Reinforcement Learning”

2016 – 2018

Bachelor Chemistry (discontinued)

Hauptuniversität Wien

2012 – 2016

Matura

BORG St. Pölten

Focus on Science and Technology

Work History:

Since 2021

Data Scientist

Georg Fischer Casting Solutions, Herzogenburg

POC to automatically find and tag errors in x-ray images using computer vision and implementing an active learning system to calculate uncertainties and preferentially label informative data samples.

Design and implement a systematic way to grade and store x-ray images for quality control.

POC of utilizing VAEs to build latent spaces to find optimal combinations of parameters relevant to the die-casting process.

Design and implementation of automated analytics tools for interactive on-demand quality reports to identify quality issues for over 50% of the product portfolio.

Design and implementation of a post-hoc analysis framework to identify and cluster shot curve patterns associated with quality issues.

Design and implementation of anomaly detection pipelines that are used for the daily tagging of anomalies for relevant parameters in the die-casting process.

Improve existing analysis and data gathering pipelines to reduce their daily runtime by 80%.

2021 Feb. – May

Data Science Internship

Georg Fischer Casting Solutions, Herzogenburg

Design and implementation of a web-app to automatically tag anomalies in measurement data of die-casted parts in R (RShiny).

2020 May – Aug.

Data Science Internship

craftworks, Vienna

Design, development, implementation, benchmarking and testing of a data labeling tool based on the active learning paradigm. Active Learning reduces manual labor involved in data labeling as well as improves predictive quality of trained models.

2019 Mar. – Jul.

Student assistant in quality management

University of Applied Science St. Pölten

2015 Jul.

Internship X-ray Diffraction

TU Wien

Languages:

German	Native
English	Fluent
French	Basic Knowledge

Script/Programming Languages:

Python	Advanced Knowledge
R	Intermediate Knowledge
Julia	Intermediate Knowledge
SQL	Intermediate Knowledge
Bash	Basic Knowledge

Toolstack and Frameworks:

Postgres, Spark, Hadoop, Docker, Podman, Git, Anaconda, MS Office, MS Azure, AWS, Kubernetes, Rapidminer, Knime, Tableau, Qlik Sense, PowerBI, SSIS, Linux, Jupyter, Jira, Zotero

pandas, numpy, opencv, scikit-learn, scipy, statsmodels, pgmpy, tensorflow, fastai, tensorboard, keras, pytorch, ruptures, ludwig, mlflow, wandb, tensorboard, interpretML, lime, shap, gym, streamlit, gradio, plotly, matplotlib, seaborn, pyarrow, sqlalchemy,

tidyverse, Rshiny, shinydashboard, shinyjs, caret

DataFrames.jl, Pluto.jl, Flux.jl, ReinforcementLearning.jl, Plots.jl, MLJ.jl, HypothesisTesting.jl, JsonGrinder.jl, Mill.jl

Achievements:

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| 2023 | Speaker @ YTIC about Active Learning |
| 2022 | Winner of the AWS DeepRacer Competition (@ FHSTP)
2nd Place at AWS Jam (DACH Region)
Speaker @ SAINT about Active Learning |
| 2019 | Winner of the 2. Data Science Hackathon
hosted by the Data Science Initiative in Vienna |

Research Interests:

Reinforcement Learning, Active Learning, Representation Learning, Causality, Weak Supervision, Algorithmic Fairness, Computer Vision

Jan Vrablicz
St. Pölten, April 2024

