

Robert S. Piecyk

+49 176 80365573 | robert.s.piecyk@gmail.com | Munich, Germany | [LinkedIn](#) | [GitHub](#) | robertpiecyk.com

SUMMARY

Applied AI and machine learning scientist with 9 years turning complex, multi-source data into deployed, decision-support solutions across healthcare and life sciences. PhD in Bioinformatics (TUM). Builds end-to-end ML - from data engineering and modeling through validation to containerized production deployment - and translates model outputs into decisions for clinical and cross-institution stakeholders.

SKILLS

Core: Python · R · SQL · scikit-learn · PyTorch · TensorFlow · pandas · NumPy

Tools: AWS · Microsoft Azure · Docker · Apptainer/Singularity · Git · Linux/HPC · Tableau · Plotly · R Shiny

Methods: Predictive modeling & classification · Survival analysis & decision support · Deep learning (CNN/LSTM, attention/MIL, foundation models) · Unsupervised learning & clustering · Feature engineering · Model validation & benchmarking · Reproducible ML pipelines & MLOps · LLM-enabled & agentic workflows

Domains: Healthcare & Life Sciences · Clinical & Business Decision Support · Oncology & Precision Medicine · Imaging, Omics & Clinical Data

EXPERIENCE

Postdoctoral Data Scientist — AI for Oncology & Precision Medicine

Feb 2024 – Present

LMU University Hospital (LMU Klinikum), Munich, Germany

- Built an end-to-end pipeline predicting 80+ molecular targets from H&E whole-slide images, reaching AUROC up to 0.90 on external validation across three independent cohorts using foundation-model embeddings with attention-based deep learning.
- Developed a Cox-regression nomogram as a decision-support tool for brain-metastasis treatment planning
- Led part of a multi-institution project (LMU × Helmholtz Munich): benchmarked published predictive indices against evolutionary-algorithm models, defining evaluation metrics and selecting models for reliability and scalability.
- Derived patient subtypes via unsupervised ML on high-dimensional data and linked them to outcomes across treatment cohorts, producing stratification signals to support treatment decisions.
- Delivered containerized, reproducible ML environments (Docker/Apptainer) on HPC and partnered daily with clinicians and national consortia (DKTK, BZKF), translating model outputs into decisions for non-technical stakeholders.

Data Scientist (PhD Researcher) — Computational Biology & Data Science

Sep 2020 – Dec 2023

Technical University of Munich (TUM), Freising, Germany

- Designed, implemented and benchmarked two open-source tools for genome-scale methylation analysis (jDMRgrid, DMRspiker) for large-scale data, from algorithm to public release.
- Built CNN/LSTM deep-learning models in TensorFlow over large-scale unstructured genomic data to identify sequence determinants of biological signal.
- Integrated multi-source omics data into statistical models linking molecular variation to phenotype, resulting in co-first-authorship

Data Scientist — Research Student, Data Science & Bioinformatics

Feb 2017 – Aug 2020

Silesian University of Technology, Gliwice, Poland

- Ran machine-learning radiomics on medical imaging to predict clinical outcomes, and built biostatistical analyses of proteomics and genomics datasets.
- Built an automated computer-vision system to detect liver metastases in MRI (MSc thesis).

Software Engineer (Intern / Contractor)

2018 – 2019

WASKO S.A. / Gabos Software, Gliwice, Poland

- Developed SQL reporting for MEDICUS, a hospital CRM application supporting operational healthcare workflows

EDUCATION

Technical University of Munich (TUM)

2020 – 2026

Dr. rer. nat. (PhD), Bioinformatics — epigenomics & machine learning

Germany

- Thesis submitted April 2026; defense expected autumn 2026.

Silesian University of Technology

2019 – 2020

MSc, Data Science

Poland

- Graduated with distinction (final grade 5.0; GPA 4.86/5.0).

Silesian University of Technology

2015 – 2019

BEng, Bioinformatics

Poland

- Final grade 5.0/5.0; GPA 4.76/5.0.

LANGUAGES

Polish (native) · English (C2, full professional) · German (B2, working proficiency)