

MACHINE LEARNING ENGINEER

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About me_

I'm driven by a passion for science and a constant desire to understand how different industries work—from healthcare and geospatial tech to eyewear and autonomous systems. I enjoy building smart, practical tools that have real impact, and I'm always looking for new ways to connect ideas across fields.

Work Experience

Spatialise	sterdam area, Netherlands, Remote
Geospatial ML Engineer	Feb 2025 - Ongoing
Worked on: Geospatial ML systems for soil carbon analysis	5 5
 Responsibilities: Developed and deployed APIs from scratch for model inference using FastAPI and Pydantic Processed satellite imagery for soil carbon data analysis Built and containerized scalable ML services using Docker on Google Cloud Platform Integrated model inference pipelines with Retool for visualization Develop Deep Neural Networks for soil organic carbon (SoC) Skills and tools: Python, FastAPI, Pydantic, Docker, Google Cloud Platform, Retool 	
Helmholtz-Zentrum Dresden-Rossendorf (HZDR)	Saxony, Germany
Machine Learning Researcher - MLOps infrastructure Internship	Apr 2024 - Oct 2024
Worked on: Machine Learning systems for Particle Acceleration simulation data	
 Responsibilities: Worked on HPC clusters to generate data using PIConGPU for laser and plasma particle acceleration simulation. Write data generation pipelines in Snakemake framework. Model training and evaluation modular scripts. Hyper-parameter optimization and training pipeline for interchangeable deep learning model architectures. Cloud based model training logging using Weights and Biases (Wandb). Skills and tools: Python, HPC, Slurm, Snakemake, Shell, Pytorch, Wandb, Panoptes. 	ons
Tvarita	Clui-Napoca, Romania
Machine Learning Engineer	Sep 2021 - Sep 2023
Product worked on: Digital eve-ware measurement software and Glasses and Lenses showcase app	00p 2021 00p 2020
 Responsibilities: Data handling from partner data provider Data tagging for facial measurements and data formatting Use pre-trained models for head detection and feature extraction (OpenVino) Train and evaluate models for lenses segmentation Integrate trained models into the multi-platform QT-based client apps for Zeiss, Optiswiss, Seiko and many Optimize the system in order to run on low power embedded hardware Build an optics showcase application for Lenses and Glasses in C++ and Qt framework for Seiko Design back-end functionalities and architecture Integrate analytics based on Google Analytics Services suite Skills and tools: Python, C++, OpenCV, OpenVino, Qt, Pytorch, Tensorflow, CUDA, Tensorboard, Numpy, Matplotlib 	/ more
Machinations.io	Cluj-Napoca, Romania
Machine Learning Intern	Jul 2021 - Aug 2021
 Product worked on: Prediction and Designing system for Game Economies and Systems Responsibilities: Developed a data pipeline in order to fetch relevant data from user simulations Collected data from a Mysql server, using SQL queries and data cleaning pre-process Matplotlib and Seaborn to make data statistics and showcase Pytorch-based classification model training 	

Implemented Scikit learn traditional **ML models**

Wrote documentation for the project

[•] Skills and tools: Python, SQL, Matplotlib, Seaborn, Numpy, Scikit-Learn, Pytorch

Extracurricular

Elbflorace Formula Student Team

Autonomous System Engineer

- Worked on: Race Car Perception System
- Responsibilities:

Look through state-of-the-art algorithms used in **vehicle perception** Test different algorithm implementations for ground classification Collect and process LiDAR point cloud data Write module documentation Performance tracking for implemented approaches Train YOLO v10 model for cone object detection

• Skills and tools: Python, C++, ROS2, LiDAR sensors, Computer Vision, YOLO

Education

Technical University Dresden

Exchange student for Master's degree studies

 Courses: Computer Vision, Computer and Robot assisted surgery, Data Visualization, GPU programming, Statistics, Scalable Data Engineering, **Bio-informatics**

Babeş-Bolyai University

Master's of Science in High Performance Computing and Big Data Analytics

• Courses: Data Science, Parallel Programming, Cluster Computing, Ethics, Multi-agent Systems, Artificial Intelligence, Machine Learning, Research

Babeş-Bolyai University

Bachelor of Computer Science

Projects

RAG (Retrieval-Augmented Generation) based feature extraction

Freelance, MLOps, CI/CD, DevOps

- Parsing top websites for nutritional values using Python along with Selenium and Beautiful Soup
- · Langchain with Milvus vector db for handling for scraped corpus of data and LLM requests for nutritional values extraction from embeddings (based on scraped data)
- Skills and Tools: LLM, GPT api, Langchain, Python ,Selenium, Beautiful soup, Vector database, Milvus

Custom model deployment using Azure

MLOps, CI/CD, DevOps

- Multi-model endpoint invocation
- Custom roll-out for cloud model inference
- Automation for CI/CD
- Seamless integration with 3rd party repositories through Git
- Skills and Tools: Azure Devops, Azure ML, Container Registry

Skills

Machine Learning	Deep Learning, HPC, Pytorch, Tensorflow, Opencv, Huggingface Transformers, Pandas, Numpy, Matplotlib, Seaborn, Wandb,
	CUDA, Snakemake, Geopandas
Software Engineering	Python, C++, Pydantic, Fastapi, SQL, Qt, Streamlit, Next.js, API Integrations
Miscellaneous	Linux, Latex, Firebase, Git, Docker, GCP
Soft Skills	Time Management, Teamwork, Team management, Problem-solving, Documentation, Engaging Presentations

Languages _

English Professional proficiency Romanian Native proficiency Italian Elementary proficiency

Dresden, Saxony, Germany Oct 2023 - Oct 2024

Cluj-Napoca, Romania

Oct 2023 - Oct 2024

Oct 2022 - Current

Dresden, Saxony, Germany

Cluj-Napoca, Romania

Oct 2019 - Jul 2022

Project Link