Piotr Woliński

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Zürich, Switzerland

Professional Experience

Sika AG | Zürich, Switzerland — 07/2024 - Present
Working Student Data Engineer — *Python, FastAPI, Machine Learning, Data Structures, Git, Leadership*

- **Taught python best practices by leading three interactive sessions** with other students, resulting in their deepened understanding about path handling, enums and environment management
- Showed feasibility of comparing chemical products similarity using embedding models by delivering a convenient PoC

Verity AG | Zürich, Switzerland — 08/2023 - 06/2024
Working Student Software Engineer — *Python, FastAPI, Data Structures, AWS, Git, Unix*

- **Reduced data quality processes complexity** by integrating a proximity based clustering into existing 3D tool to allow toggling between relevant and irrelevant parts of the visualization
- **Lowered time spent on report creation by 90%** by developing a custom tool to streamline the process using templates
- Reduced technical debt in large, client-facing REST API by refactoring it using best python practices
- Increased productivity of the solution engineers by developing multiple optimizations and features for the data quality pipeline measured by the positive feedback after every new release

DeepTale AI | Poznań, Poland — 02/2023 - 05/2023
Junior Machine Learning Engineer — *Python, FastAPI, JavaScript, Vue, GCP, REST, Docker, Git, Unix*

- **Allowed QA team to iterate on the designs up to 4 times faster** than before by developing a complex web app serving as a user-friendly GUI for the custom GAN model
- **Led the integration of the new service** into existing architecture by enhancing the internal API
- Enhanced internal API by developing important redirecting endpoints leading to easy integration of a new tool

STX Next | Gdańsk, Poland — 07/2022 - 01/2023
Python Developer — *Python, Pandas, Plotly, SQLAlchemy, Django, Git*

- Brought back client data integrity by resolving a complex bug in their data pipelines

Intel Corp | Gdańsk, Poland — 10/2021 - 06/2022
Deep Learning Software Engineer Intern — *C++, Python, gdb, Machine Learning, Git*

- **Optimized MXNet Deep Learning framework** for Intel CPUs by integrating new operators using Intel oneAPI
- **Improved interpretability of DNNs** by unifying inference (including quantized) graph models with base ones
- Extended sets of allowed activation functions for certain operators

Intel Corp | Gdańsk, Poland — 07/2021 - 09/2021
Software Developer Intern — *Python, Flask, JavaScript, Vue, Docker, MongoDB, Data Structures, Git*

Education

University of Zürich — 09/2023 - 12/2025
MSc. of Computer Science | Major in Data Science | GPA: 5.0/6
Focused on Computer Vision and supporting infrastructure, as well as Software Engineering

Gdańsk University of Technology — 10/2019 - 02/2023
BSc. of Engineering in Computer Science | Computer Systems Architecture | GPA: 4.45/5

- **Obtained scholarship for top 8% of the students two years in a row**
- Contributed to the studies organization by **being the student representatives throughout whole studies**, responsible for connecting students with the university administration
- Prepared a project for a university civic budget which was selected for realisation from more than 20 others

Relevant coursework

Deep Learning, Computer Vision (ETH course), Vision Algorithms for Mobile Robotics, Reinforcement Learning, Systems for Data Science, Advanced Software Engineering

Skills

Programming languages:
Python, C++, C, JavaScript, Rust (still learning)

Technologies & Tools:
FastAPI, Pydantic, PyTorch, Pandas, OpenCV, Numpy, Vue, Git, Linux, Docker

Soft skills:
Outstanding communication, mentoring, collaboration, time management

Other:
Machine Learning, Computer Vision, Data Structures, System Design

Projects

Real-time drone detection 09/2024

Python, OpenCV, ROS2, Computer Vision, Machine Learning, Git, Leadership

- **Made YOLO learn to detect difficult drone poses** by designing and implementing the synthetic training samples generator pipeline
- Proposed approach for automated image annotation pipeline using knowledge distillation, which **reduced manual work needed by more than 80%**
- **Coordinated team work** inside a group of four and in the end our model managed to beat the reference implementation

Real-time ESP32 Visual Odometry In progress

Python, C++, OpenCV, Rerun, Computer Vision, Git

- Working on the end-to-end visual odometry pipeline for processing video stream from ESP32S3 microcontroller and visualizing it using Rerun
- This allows me to deepen my understanding of computer vision and put to practice theory obtained during courses

Fourier features for high frequency functions - Paper implementation in PyTorch 06/2024

Python, PyTorch, Machine Learning

- Implemented experiments from the paper about Fourier features embeddings to learn one of the key techniques behind the NeRFs
- It allowed me to test my PyTorch skills as the original implementation uses JAX instead

MicroPython for edge AI inference 09/2022 - 12/2022

Python, MicroPython, TensorFlow, ESP32, Computer Vision, Git

- Collaborative bachelor project which effect was an image recognition device made of two wirelessly connected ESP32 microcontrollers running MicroPython and quantized CNNs

Leadership and Other Activities

Faculty Student Council 10/2019 - 10/2022

- Active member for three years, Vice President of the IT for the last year
- **Secured platinum sponsorship from Intel corp** for a major faculty charity event by actively leading the negotiations
- Boosted students morale by being the main organizer of the three major events at the faculty aimed at students

Hackathons

- Won 3rd place competing with 9 other teams at the BEST Career meeting hackathon 2022. Contributed to team success by efficiently handling image processing tasks
- Scored 4th out of 13 teams at the AI Games 2022 in Aircraft Trajectory Prediction Challenge. Skilfully handled data processing what allowed my team to move forward and work on the next challenges

Certificates

- Fundamentals of Accelerated Computing with CUDA Python, issued by NVIDIA

Languages

Polish - Native | English - C1 | German - A2/B1

Hobbies

Strength training, bouldering, custom keyboards, FPV drones, home lab, computer science, self development, books