

Tomasz Hawro

Born: February 6, 1998

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EDUCATION

- **Wrocław University of Science and Technology** Wrocław, Poland
Bachelor's degree - Biomedical Engineering, Medical Informatics (Grade 5.5) 2017 - 2021
- **Wrocław University of Science and Technology** Wrocław, Poland
Master's degree - Artificial Intelligence (Grade 5.5) 2021 - 2023

SKILLS SUMMARY

- **Languages:** Python, Java, JavaScript, SQL, Android.
- **Libraries:** PyTorch, PyTorch Lightning, NumPy, Matplotlib, Optuna, scikit-learn, SciPy, plotly, OpenCV, React.
- **Tools:** ONNX, GIT, Docker, Linux, MLFlow, WandB, DVC, AutoML, Streamlit, Gradio, Hydra, Jupyter.
- **Other:** Solid knowledge of classical machine learning and neural networks algorithms.

EXPERIENCE

- **BonaSoft** Mar 2021 - Jul 2021
Python Developer
 - **Backend development:** Implementation of REST API backend for a website. **Tech:** Python, Django, Swagger.
 - **Unit tests:** Implementation of unit tests for REST API calls. **Tech:** Python, Django.
- **MX Labs** Jul 2021 - Jul 2023
Machine Learning Engineer
 - **Deep Learning (DL):** Implementation of multimodal Deep Neural Networks for blood pressure estimation (modalities: bio signals, face video, metadata). **Tech:** PyTorch, PyTorch Lightning.
 - **DL:** Implementation of lightweight CNN architectures for face metadata extraction. **Tech:** PyTorch.
 - **Productization:** Models productization from PyTorch research phase to ONNX model applicable in C++. **Tech:** PyTorch, ONNX.
 - **Research:** Versatile research on ML and DL approaches for blood pressure estimation based on PPG signals.
 - **Feature Engineering:** Implementation of feature extraction algorithms for the PPG signal. **Tech:** NumPy, SciPy.
 - **AutoML:** Optimizing ML models and preprocessing pipelines with Optuna. **Tech:** Optuna, Joblib, scikit-learn.
- **Vestigit** Jul 2023 - Present
Artificial Intelligence Engineer
 - **Research:** Versatile research on classical and DL approaches for efficient saliency map estimation and DL-based watermarking solutions.

PROJECTS

- **YOLOv1 from scratch:** Implementation and training of YOLOv1 architecture written in PyTorch. **Tech:** Python, PyTorch, mlflow.
- **YOLOv8 Digits detection:** Handwritten digits detection using a YOLOv8 model trained on a custom dataset (demo available online). **Tech:** Python, PyTorch, PyTorch Lightning, ONNX, ONNX Runtime, React.
- **Bachelor thesis:** Categorization of auditory evoked potentials using machine learning. **Tech:** Python, scikit-learn, pandas, NumPy, SciPy.
- **Master thesis:** The influence of medical signals representation on machine learning models results. **Tech:** Python, PyTorch, PyTorch Lightning, scikit-learn, pandas, NumPy, SciPy.
- **SqueezeNet Flowers classification:** Classification of 102 flower species using SqueezeNet architecture pretrained on ImageNet (demo available online). **Tech:** Python, PyTorch, PyTorch Lightning, Docker, Gradio.
- **GlucosePred:** Implementation of feature extraction and machine learning pipelines for glucose level estimation based on PPG, Accelerometer, EDA and Temperature biomedical signals. **Tech:** Python, NumPy, SciPy, PyTorch, scikit-learn, pandas
- **Prenatally:** Mobile application for pregnancy monitoring. **Tech:** Java, Android, SQL.

HONORS AND AWARDS

- Winning the Dean's Award twice.
- Winning the poster session competition at *OMatKo!!!* conference - November, 2021.
- Winning the competition of IT projects of the AI Tech Summer School during the poster session - May, 2022.

LANGUAGES

- **Polish:** Native
- **English:** Proficient