

Work Experience

Personal development

August 2022 – Present

Deep Learning Engineer

- Became proficient with deep learning frameworks, including PyTorch and PyTorch Lightning
- Developed and deployed state-of-the-art deep learning models, with a focus on solving computer vision problems, utilizing a diverse range of training techniques, including transfer learning and self-supervised learning
- Implemented effective data augmentation strategies and conducted comprehensive hyperparameter tuning to optimize model performance and enhance generalization capabilities
- Acquired extensive knowledge in both classical machine learning (supervised and unsupervised) and advanced deep learning techniques, including Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Transformers, and Generative Adversarial Networks (GANs)

Agribot

January 2020 – August 2022

Robotics Software Engineer

- Developed high-accuracy tomato peduncle detection system using YOLOv5 and depth map from stereo camera, achieving millimeter-level accuracy
- Deployed TensorRT models on Jetson Nano and PC, leveraging AWS cloud for model training experiments
- Established an in-house labeling team for efficient model training and data annotation
- Designed and implemented pointcloud-based obstacle detection system for autonomous orchard tractor
- Developed centimeter-level localization system for autonomous orchard tractor, conducting field tests with RTK GNSS receivers, IMUs, and wheel encoders, and tuning the localization Kalman Filter using real-world and simulation data

Education

Embedded Robotics

Master's degree program

Wrocław University of Science and Technology

February 2018 – September 2019

Thesis: Indoor localization of a mobile robot with odometry, IMU and Decawave modules

Grade: Very good (5.0)

Control Engineering and Robotics

Bachelor's degree program

Wrocław University of Science and Technology

October 2014 – February 2018

Thesis: Monitoring and management of a mobile robot group in ROS environment

Grade: Very good (5.0)

Skills

Deep Learning

Computer Vision

ML and Data Science

Other

Python, PyTorch, PyTorch Lightning

TIMM, torchvision, albumentations, OpenCV, PIL

scikit-learn, numpy, pandas

Linux, Docker, AWS, Git