

MAREK POKROPIŃSKI

AI Developer

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marek-pokropiński

EXPERIENCE

AI DEVELOPER

Sport Vision Technology

2021 – 2024 (Ongoing)

Remote

- Developing project for creating virtual copy of a human and sport ball in 3D environment using video feed from multiple cameras.
- Built and validated deep learning models for computer vision with custom layers and losses. Performed exploratory data analysis and data preprocessing.
- Exporting deep learning models and pipelines to C++ using TensorRT and OpenCV. Designing parts of C++ library architecture and provided implementation with multiprocessing for real-time video analysis.
- Worked with calibrating system with multiple cameras.
- Used object detection and object segmentation. Worked with synthetic data. Made data visualizations.

Technologies: Python, C++, Pytorch, TensorRT, CUDA, MLFlow, YOLO, 3D detection, 3D regression.

PROJECTS

Farm Animal Tracking

Computer Vision project

10/2020 - 02/2021

Project prepared for Computer Vision course. Used SSD model for object detection. SSD fine-tuning. Trained Siamese network for object similarity. Developed tracking pipeline using DeepSort. Data visualization. Implemented validation metrics for tracking.

- Technologies: Python, Tensorflow, Object detection, Object tracking, SSD, Transfer learning, Triplet Loss

Airport Gate Assignment Problem

Master Thesis

10/2020 - 06/2021

Optimization of gate assignment in the airport. Flights are assigned to a set of gates with objective of minimization of delays, distance walked by passengers and number of reassignments. Developed airport simulation for the problem. Defined multiple objectives. Developed pipeline for multi-objective optimization. Developed and trained transformer based neural network using multi-objective reinforcement learning. Developed pipeline using evolutionary algorithm NSGA-II as a baseline comparison.

- Technologies: Python, Tensorflow, Reinforcement learning, Multi-objective optimization

SUMMARY

I am an AI Engineer with a background in image processing and computer vision, specializing in deep learning methods.

EDUCATION

M.S. in Computer Science and Engineering with Specialty in Data Science

Wrocław University of Science and Technology

02/2020 – 07/2021

B.S. in Computer Science and Engineering with Specialty in Medical Computer Science


Wrocław University of Science and Technology

10/2016 – 02/2020

CERTIFICATES

 TensorFlow Developer Certificate

TensorFlow

 PCAP – Certified Associate in Python Programming [PCAP-31-03]

Python Institute

 CPA - C++ Certified Associate Programmer [CPA-21-02]

C++ Institute

SKILLS

Tensorflow

PyTorch

TensorRT

scikit-learn

OpenCV

Docker

Kubernetes

Ray

Jenkins

Python

C++

JAVA

JavaScript

Spring Boot

Django REST Framework

REST API

React

HTML5