Sprint 1

Znalezienie tutoriali, artykułów, materiałów dot. śledzenia obiektów na wideo

Artykuły

Wprowadzenie i use case'y Object Trackingu

Wprowadzenie do BYTETrack

- kod do trenowania detekcji z wykorzystaniem YOLOv8

- multiple object tracking happens in two stages: object detection and object association

- object detection is the process of identifying all potential objects of interest in the current frame using object detectors

- object association is the process of linking objects detected in the current frame with its corresponding objects from previous frames

- the main idea of BYTETrack is simple - keep non-background low score boxes for a secondary association step between previous frame and next frame based on their similarities with tracklets

- because of its usage of relatively simple metrics, BYTETrack demonstrates limited accuracy in crowded scenes with many objects moving amongst each other in close proximity

- the strategy of maintaining the usage of boxes with low confidence scores increases noise that can induce the tracking of irrelevant objects

BYTETrack paper

OBJECT TRACKING - Medium

- object tracking involves the sequential estimation of an object's position, size, and orientation across multiple frames

Top 10 Video Object Tracking Algorithms in 2025 - encord

Object Tracking in Computer Vision - Viso AI

High-Speed Tracking-by-Detection Without Using Image Information Paper - (git https://github.com/bochinski/iou-tracker)

YOLO

- śledzenie obiektów

- nadanie ID każdemu obiektowi

- real-time bez straty accuracy

- trackery: https://github.com/NirAharon/BoT-SORT https://github.com/ifzhang/ByteTrack

- Multithreaded Tracking - w moim kodzie rdzenie cpu przesyłają asynchronicznie klatki do GPU, które jednocześnie obsługuje kilka wejść

GOTURN : Deep Learning based Object Tracking

SIMPLE ONLINE AND REALTIME TRACKING Paper

SIMPLE ONLINE AND REALTIME TRACKING WITH A DEEP ASSOCIATION METRIC (DEEPSORT) Paper

FairMOT: On the Fairness of Detection and Re-Identification in Multiple Object Tracking Paper

TrackFormer: Multi-Object Tracking with Transformers Paper

MOTS: Multi-Object Tracking and Segmentation Paper

Online Multi-Object Tracking and Segmentation with GMPHD Filter and Mask-based Affinity Fusion Paper

Track to Detect and Segment: An Online Multi-Object Tracker Paper

YOLOv1 to YOLOv10: A comprehensive review of YOLO variants and their application in the agricultural domain Paper

Fully-Convolutional Siamese Networks for Object Tracking Paper

Kody

https://www.kaggle.com/code/kirollosashraf/driving-video-object-tracking#Step1|-Import-important-packages - KAGGLE

Śledzenie pojedynczego obiektu - notebooki