

DAVID MATOS

Deep Learning Engineer | Computer Vision

@ davidmatos06@gmail.com +31 (0)6 1888 4708 Eindhoven, NL
Personal Website in David Matos David Matos



RELEVANT EXPERIENCE

Deep Learning Intern

ViNotion

09/2019 - 12/2019 Eindhoven, Netherlands

- Research impact of obfuscating license plates on the effectiveness of object detection accuracy
- Implement Mask-RCNN and SSD networks object detectors to enable multiple experiments

Master Thesis

Analysis of multiple modality object detectors and 3D multiple-object tracking

12/2019-09/2020 Eindhoven, Netherlands

- Benchmark different object detectors based on camera, LiDAR sensors to implement in tracking-by-detection approach
- Research different affinity measures for data association module in the tracking algorithm
- Implement algorithm on the TU/e autonomous vehicle

SKILLS

Proficient with

Python PyTorch ROS
Git Matlab TensorFlow
OpenCV

Familiar with

Docker C++ Flask SQL

EDUCATION

M.Sc. Automotive Technology

Eindhoven University of Technology

09/2018 - 10/2020 Eindhoven, Netherlands

Relevant coursework

- Convolutional Neural Networks for Computer Vision
- Machine Learning for Signal Processing
- Advanced Sensing using Deep Learning

B.Sc. Mechanical Engineering

Florida Institute of Technology

09/2012 - 09/2016 Florida, United States

ACADEMIC ACHIEVEMENTS



Finished my Bachelors Magna Cum Laude with GPA 3.89/4.00



Awarded Full Scholarship to perform Bachelors in United States

PROJECTS

PyTorch - Flask X-Ray Disease detection

- Train EfficientDet network and evaluate using COCO evaluation on kaggle dataset
- Deploy locally using Flask, but intending to extend functionality with databases, deployment with Heroku.

PyTorch, Python, JavaScript, Flask, Git

Plant Instance Segmentation

- Implement instance segmentation network Mask-RCNN to count and segment plants on a private dataset.
- Evaluate model qualitatively and quantitatively using COCO evaluation.
- Training performed with Google Cloud Platform

PyTorch, Python, Git

Pointnet detections with ROS

- Implement a SoA object detector in the KITTI dataset with ROS.
- Detections visualized in LiDAR and camera space using RVIZ.

PyTorch, Python, ROS, Git

Kitti data to Bag tool

- Tool to convert raw data from the automotive KITTI dataset to a ROS bag, using the ROS Point Cloud Library.

C++, ROS, Git

Robust Semantic Segmentation

- Implement network to achieve robust semantic segmentation on the Synthia dataset.
- Test different data augmentation techniques such as Gamma, flip, saturation among others to determine improved network's performance.
- Google Cloud training on Synthia dataset

TensorFlow, Python

CityScapes Semantic Segmentation

- Implement network to perform semantic segmentation on the CityScapes dataset
- Perform different experiments changing optimizers, using regularization and changing input images to network.
- Google Cloud training on CityScapes dataset

TensorFlow, Python

Kaggle Speech Recognition

- Convert audio file to spectrogram to act as input to neural network
- Implement neural network to correctly classify the spectrograms

TensorFlow, Python

LANGUAGES

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Spanish	<div><div></div><div></div><div></div><div></div><div></div></div>
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Dutch	<div><div></div><div></div><div></div><div></div><div></div></div>