Haluk Aral Hekimoglu

Nationality: Turkish

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WORK EXPERIENCE

Doctoral Researcher

BMW Group [01/04/2021 – Current]

City: München

Country: Germany

- Conduct research at BMW while also working towards a Doctoral Degree from Technical University München
- Develop Active Learning methods for Autonomous Driving tasks to increase efficiency of data selection process
- Collaborate with other PhD students in the team and supervise master thesis students

Computer Vision and Machine Learning Engineer

Kuartis Technology [15/05/2020 – 31/03/2021]

City: Ankara

Country: Turkey

- Researched Active Learning methods for data-efficient model development. Researched method helped 2D Object Detection deep learning model achieve peak performance with 30% less training data.
- Constructed an Active Learning based pipeline consisting of data selection, training dataset creation and model training that helped engineers spend less time on data preparation processes and more on model development.
- Worked on training and implementation of multiple autonomous driving perception models including: 2D Object Detection, Lane Detection, Point Cloud Segmentation, Perception Fusion and Motion Prediction.
- Deployed various neural network models using TensorRT and C++ 11 for faster inference running on NVIDIA DRIVE AGX and ROS.
- Participated in design and decision making process of full perception architecture for a self-driving car.

Computer Vision Research Intern

Kuartis Technology [10/06/2019 – 05/09/2019]

City: Ankara

Country: Turkey

- Designed a new person re-identification model to improve performance of the model in-use by +16% by proposing a part-based generator network to generate more realistic looking pedestrian images.
- Organized experiments in PyTorch to compare performance and image quality that resulted in reduction in complexity of the backbone network which doubled the speed at test time.
- Participated in entire R&D cycle: coding the network, data loading, training in a Nvidia-Docker container, conversion to a deployable TensorRT Caffe model, integrating with surveillance system in C++.

Research Intern
Computer Vision Lab ETH Zurich [20/06/2017 – 06/09/2017]

City: Zurich

Country: Switzerland

- Researched image processing algorithms for registration and segmentation to get familiarized with medical image processing concepts and tools used for building projects.
- Created a user-interface plugin for MITK using C++ for medical image processing algorithms designed for use of health-care professionals working on healthcare data in detection of deformations.
- Deployed the applications in Docker containers to eliminate environment dependency problem.

EDUCATION AND TRAINING

Master of Science Computer Science
New York University [26/08/2018 – 19/05/2020]

Address: 50 West 4th Street , 10012 New York, NY (United States)

https://nyu.edu

Bachelor of Electrical and Electronics Engineering
Middle East Technical University [01/09/2014 – 15/06/2018]

Address: Üniversiteler, Dumlupınar Blv. 1 Çankaya, 06800 Ankara (Turkey)

https://www.metu.edu.tr

LANGUAGE SKILLS

Mother tongue(s): **Turkish**

Other language(s):

English

LISTENING C2 **READING** C2 **WRITING** C2

SPOKEN PRODUCTION C2 **SPOKEN INTERACTION** C2

German

LISTENING A2 **READING** A2 **WRITING** A2

SPOKEN PRODUCTION A2 **SPOKEN INTERACTION** A2

DIGITAL SKILLS

Coding Languages
Python / C++ / MySQL / HTML / CSS

Computer Systems
Linux / Docker / NVIDIA TensorRT

Frameworks and Libraries
PyTorch / Tensorflow / Keras / OpenCV / Numpy / Scikit-Learn