



Newsletter #3, 11/2021



Dear reader,

We are pleased to send you the third edition of our KI Familie newsletter. The last months were marked by various important events such as the ITS World Congress in Hamburg and the KI Delta Learning interim presentation. Read more about the ITS event in our top story of today. In the project highlights you will learn more about KI Delta Learning's interim presentation, KI Absicherung's literature repository, the production of synthetic data by KI Data Tooling as well as the state-of-the-art research of KI Wissen.

Best wishes,

The KI Familie editorial team



KI Familie going global on the ITS

“Team up and accelerate the development of AI expertise in the automotive context. For a safe autonomous future mobility. Worldwide” – that is the goal of the KI Familie, which presented itself to an international audience in a special session at the ITS World Congress, the world's largest and most renowned event dealing with intelligent mobility and the digitalisation of transport.

[Read more](#)

Project Highlights



KI Wissen conducts state-of-the-art research

With a comprehensive literature review, the project KI Wissen compiles an important state-of-the-art work. This represents another important step on the way to integrating and extracting knowledge in AI systems and provides a broad overview of existing research and approaches in this field.

[Read more](#)



KI Data Tooling starts with production of synthetic data

Having so far relied on the synthetic data of its sister project KI Absicherung, KI Data Tooling will soon also produce its own synthetic data material. While the focus is currently still on tool optimization and lessons learned from KI Absicherung, a start will be made in November on determining the scene requirements for real and synthetic data on a Bosch test field.

[Read more](#)



KI Absicherung publishes literature repository

The sub-project „Methods and Measures“ of the project „KI Absicherung: Safe AI for Automated Driving“ is developing methods and measures to assess and improve AI-based functions with respect to safety relevant properties. Work package 3.1, being led by Fraunhofer IAIS, is dealing with monitoring and assessing the state-of-the art in this field.

[Read more](#)



Half time for KI Delta Learning

Overall, more than 300 participants gathered to follow the virtual mid-term presentation of KI Delta Learning on October 7, 2021. Together with Ernst Stöckl-Pukall from the funding body German Federal Ministry for Economic Affairs and Energy, project coordinator Dr. Mohsen Sefati from Mercedes-Benz opened the event to present the latest results of the research activities in the field of scalable AI.

[Read more](#)

Events



ACM Computer Science in Cars Symposium

The 5th ACM Computer Science in Cars Symposium will take place on November 30, 2021 in Ingolstadt, Germany.

[Find out more](#)



NeurIPS

The 35th Conference on Neural Information Processing Systems will take place from December 7-10, 2021 as a virtual event.

[Find out more](#)



International Conference on 3D Vision

The 9th International Conference on 3D Vision will be held on December 1-3, 2021 as a virtual event.

[Find out more](#)



MEAL: Manifold Embedding-based Active Learning

Deepthi Sreenivasaiah, Johannes Otterbach, Thomas Wollmann

[Link to publication](#)

Deployment of Deep Neural Networks for Object Detection on Edge AI Devices with Runtime Optimization

Lucas Stäcker, Juncong Fei, Philipp Heidenreich, Frank Bonarens, Jason Rambach, Didier Stricker, Christoph Stiller

[Link to publication](#)

iPOKE: Poking a Still Image for Controlled Stochastic Video Synthesis

Andreas Blattmann, Timo Milbich, Michael Dorkenwald, Björn Ommer

[Link to publication](#)

Entropy Maximization and Meta Classification for Out-of-Distribution Detection in Semantic Segmentation

Robin Chan, Matthias Rottmann, Hanno Gotschalk

[Link to publication](#)

Semantic Concept Testing in Autonomous Driving by Extraction of Object-Level Annotations from CARLA

Sujan Gannamaneni, Sebastian Houben, Maram Akila

[Link to publication](#)

Towards Sensor Data Abstraction of Autonomous Vehicle Perception Systems

Hannes Reichert, Lukas Lang, Kevin Rösch, Daniel Bogdoll, Konrad Doll, Hans-Christian Reuss, Christoph Stiller, J. Marius Zöllner

[Link to publication](#)

A Concept for Highly Automated Pre-Labeling via Cross-Domain Label Transfer for Perception in Autonomous Driving

Maarten Bieshaar, Marek Herde, Denis Huseljc, Bernhard Sick

[Link to publication](#)

Description of Corner Cases in Automated Driving: Goals and Challenges

Daniel Bogdoll, Jasmin Breitenstein, Florian Heidecker et al.

[Link to publication](#)

Verification of Sigmoidal Artificial Neural Networks using iSAT

Dominik Grundt, Sorin Liviu Jurj, Willem Hagemann, Paul Kröger, Martin Fränzle

[Link to publication](#)

Smart Infrastructure: A Research Junction

Manuel Hetzel, Hannes Reichert, Konrad Doll, Bernhard Sick

[Link to publication](#)

Cyclist Motion State Forecasting - Going beyond Detection

Maarten Bieshaar, Stefan Zernetsch, Katharina Riepe, Konrad Doll, and Bernhard Sick

[Link to publication](#)

Learning Cascaded Detection Tasks with Weakly—Supervised Domain Adaptation

Niklas Hanselmann, Nick Schneider, Benedikt Ortelt and Andreas Geiger

[Link to publication](#)

[More information](#)

Combining Semantic Self-Supervision and Self-Training for Domain Adaptation in Semantic Segmentation

Joshua Niemeijer and Jörg P. Schäfer

[Link to publication](#)

A Survey on Deep Domain Adaptation for LiDAR Perception

Larissa T. Triess, Mariella Dreissig, Christopher Bernd Rist and J. Marius Zöllner

[Link to publication](#)

ConTraKG: Contrastive-based Transfer Learning for Visual Object Recognition using Knowledge Graphs

Sebastian Monka, Lavdim Halilaj, Stefan Schmid and Achim Rettinger

[Link to publication](#)

Optimizing Neural Networks for Embedded Hardware

Domenik Helms, Karl Amende, Saqib Bukhari et al

Contact the author to get access: domenik.helms@offis.de

Visual Domain Adaptation for Monocular Depth Estimation on Resource-Constrained Hardware

Julia Hornauer, Lazaros Nalpantidis, and Vasileios Belagiannis

[Link to publication](#)

ProAI: An Efficient Embedded AI Hardware for Automotive Applications – a Benchmark Study

Sven Mantowsky, Falk Heuer, Syed Saqib Bukhari, Michael Keckeisen, Georg Schneider

[Link to publication](#)

MultiTask-CenterNet (MCN): Efficient and Diverse Multitask Learning Using an Anchor Free Approach

Falk Heuer, Sven Mantowsky, Syed Saqib Bukhari and Georg Schneider

[Link to publication](#)

perf4sight: A Toolflow To Model CNN Training Performance on Edge GPUs

Aditya Rajagopal and Christos-Savvas Bouganis

[Link to publication](#)

Boosting Instance Segmentation With Synthetic Data: A Study To Overcome the Limits of Real World Data Sets

Florentin Poucin, Andrea Kraus and Martin Simon

[Link to publication](#)

Instance Segmentation in CARLA: Methodology and Analysis for Pedestrian-Oriented Synthetic Data Generation in Crowded Scenes

Maria Lyssenko, Christoph Gladisch, Christian Heinzemann, Matthias Woehrle and Rudolph

Triebel [Link to publication](#)

Quantifying point cloud realism through adversarially learned latent space representations

Larissa T. Triess, David Peter, Stefan A. Baur and J. Marius Zöllner

[Link to publication](#)

[More information](#)

Self-Supervised 3D Human Pose Estimation with Multiple-View Geometry

Arij Bouazizi, Julian Wiederer, Ulrich Kressel and Vasileios Belagiannis

[Link to publication](#)

NEAT: Neural Attention Fields for End-to-End Autonomous Driving

Kashyap Chitta, Aditya Prakash and Andreas Geiger

[Link to publication](#)

[More information](#)

Contact us for comments & feedback

ki-familie@eict.de

Follow us



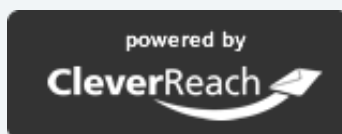
Wird diese Nachricht nicht richtig dargestellt, klicken Sie bitte [hier](#).

Image sources:

Cover picture: KI Familie going global on the ITS: Patrick Lux; KI Wissen concludes state-of-the-art research: unsplash; KI Data Tooling starts with production of synthetic data: BMW/ BIT Technology Solutions; KI Absicherung publishes literature repository: BIT-TS; Half time for KI Delta Learning; KI Delta Learning; ACM 2021: ACM; NeurIPS: NeurIPS; Int. Conference on 3D Vision: Int. Conference on 3D Vision

European Center for Information and Communication Technologies – EICT GmbH
Torgauer Straße 12-15, Haus 13
10829 Berlin
Deutschland

+49 30 3670235-000
ki-familie@eict.de



Wenn Sie diese E-Mail (an: {EMAIL}) nicht mehr empfangen möchten, können Sie diese [hier](#) kostenlos abbestellen.