Daniel Kusuma

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Education

Rheinisch-Westfälische Technische Hochschule Aachen   *Aachen, DE*

M.Sc. in Electrical Engineering   *April 2023 - Current*

- **Courses:** Computer Vision, Machine Learning for Audio and Speech Processing, Estimation and Information Fusion for Machine Learning, Functional Safety System, The Logic of Knowledge Bases

Technische Universität Braunschweig   *Braunschweig, DE*

B.Sc. in Electrical Engineering   *Oct 2017 - March 2023*

- Minors in Deep Learning
- Undergrad research advisor: Andreas Bär

Professional Experience

Learning on Graphs Research Group at RWTH Aachen   *Aachen, DE*

Student researcher   *July 2023 - now*

- Probing the expressive power of Graph Transformers (Python, PyTorch, PyTorch Geometric)
- Open source publications

Signal Processing and Machine Learning Lab at Technische Universität Braunschweig   *Braunschweig, DE*

Student researcher   *May 2022 - now*

- Implementing a performance prediction framework for semantic segmentation and object detection with varying state-of-the art backbones such as ResNet-18 to Transformer-based architectures in a modular way to accommodate further extensive studies.
- Reproducing paper benchmark results with own and external codebases.
- Running extensive experiments including efficient trainings and evaluations on the institute's GPU cluster.
- Contributing to institute's open-source code publications. Source code: Performance Prediction
- Co-authorship to institute's scientific publications. Source code: Performance Prediction 2
- **Technical Skills:** Python with PyTorch, NumPy, Matplotlib, Pandas, Scikit-learn, Linux tools, Scripting, Git.

Peter L. Reichertz Instiue for Medicine Informatics at Technische Universität Braunschweig   *Braunschweig, DE*

Student researcher   *May 2022 - now*

- Building with the team for the project KI4ALL a centralised directory of educational materials around artificial intelligence and its applications. We are working to make topics around AI accessible for everyone.
- **Technical Skills:** LaTex, Python with PyTorch, NumPy, Matplotlib, Pandas, Scikit-learn, Kaggle, Git.

IAV GmbH   *Braunschweig/Gifhorn, DE*

Working Student   *Sept 2019 - May 2022*

- Maintenance, servicing and extension as well as programming and verification of scripts for the automatic evaluation of measurement data using UniPlot and UniScript
- Analysis of measurement data using Measure Data Analyzer
- Care, maintenance, expansion, programming, and verification of scripts for automatic evaluation of measurement data using UniPlot and UniScript.
- **Technical Skills:** UniPlot, UniScript, Matlab, bash, Python, NumPy, Matplotlib, Pandas, Scikit-learn, Scripting, Git.

Volunteer

Vice President   *Braunschweig, DE*

Indonesian Students Association in Braunschweig   *Oct 2017 - Dec 2019*

- Established an initial communication between the association and the student initiatives within the campus.
- Led the organisation to hold a successful cultural night to introduce Indonesian culture to broader public.

Publications

CONFERENCE PROCEEDINGS

Improvements to Image Reconstruction-Based Performance Prediction for Semantic Segmentation in Highly Automated Driving
   Andreas Bär, Daniel Kusuma, Tim Fingscheidt
   Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops, 2023

Interests

Brazillian Jiu-jitsu and Judo	Learning and practicing martial arts plays a big role in establishing a balance between mind and body.
Reading about biology	Learning about biology at times makes me personally appreciate our place in the world.
Playing or making music	During my adult life I noticed that making music or learning new songs helps me being creative.

Languages

German	Professional proficiency
English	Professional proficiency
Indonesian	Native proficiency
Javanese	Native proficiency