Johannes Jakubik

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Relevant Experience

PhD Candidate Oct. 2020 – present
KSRI/IISM, Karlsruhe Institute of Technology (KIT) *Karlsruhe, Germany*
- Research interests in data-centric AI, few-shot learning, and foundation models
- Instructor of the course *Artificial Intelligence in Service Systems – Applications in Computer Vision*
- Part of a government funded research project on AI for the construction industry ("SDaC")
- Affiliated research member at *ETH Zurich* until Oct. 2021 (Prof. Stefan Feuerriegel)

Visiting Researcher Oct. 2020 – ongoing
IBM Research Europe *Rüschlikon, Switzerland*
- Geospatial foundation models for climate impact
- Generalized zero-shot semantic segmentation

Machine Learning and Information System Intern Oct. 2019 – Jan. 2020
Dr. Ing. h.c. F. Porsche AG, Porsche Motorsport *Weissach, Germany*
- Image classification for classifying Formula E TV streams
- Speech-to-text application for audio streams of Formula E drivers

Education

ETH Zurich (ETHZ) Zurich, Switzerland
Invited Visiting Student *Apr. 2020 – Sep. 2020*
Thesis on applied ML and optimization (published in *Production & Operations Managemant* and *European Journal of Operational Research*)

Karlsruhe Institute of Technology (KIT) Karlsruhe, Germany
M.Sc. in Industrial Engineering and Management (1.5) *Apr. 2011 – Jul. 2014*
Focus: Machine learning, multivariate statistics, stochastic optimization

Instituto Superior Técnico (IST) Lisbon, Portugal
Erasmus Stay, M.Sc. in Information Systems and Computer Engineering *Oct. 2014 – Mar. 2018*
Focus: Information processing and retrieval, Decision support models

Karlsruhe Institute of Technology (KIT) Karlsruhe, Germany
B.Sc. in Industrial Engineering and Management (1.7) *Oct. 2014 – Mar. 2018*
Thesis on reinforcement learning in manufacturing (published in *Production Engineering*)

Gymnasium Kenzingen Kenzingen, Germany
Abitur (1.2) *June 2014*

Selected Publications

[1] **Jakubik, J.**, Muszynski, M., Vössing, M., Kühl, N., & Brunschwiler, T. (2023). Toward Foundation Models for Earth Monitoring: Generalizable Deep Learning Models for Natural Hazard Segmentation. *IGARSS'23*

[2] **Jakubik, J.** & Feuerriegel, S. (2022). Data-driven allocation of development aid towards Sustainable Development Goals: Evidence from HIV/AIDS. *Production and Operations Management*, 31, 2739– 2756..

[3] **Jakubik, J.**, Binding, A., & Feuerriegel, S. (2021). Directed particle swarm optimization with Gaussian-process-based function forecasting. *European Journal of Operational Research*, 295(1), 157-169.

[4] **Jakubik, J.**, Hemmer, P., Vössing, M., Blumenstiel, B., Bartos, A., & Mohr, K. (2022). Designing a Human-in-the-Loop System for Object Detection in Floor Plans. *Proceedings of the AAAI Conference on Artificial Intelligence*

[5] **Jakubik, J.**, Nazemi, A., Geyer-Schulz, A., & Fabozzi, F. J. (2021). Incorporating financial news for forecasting Bitcoin prices based on long short-term memory networks. *Quantitative Finance*, 1-15.

Selected Other

Programming: Python, R, SQL

Honors & Awards: DAAD scholarship for international research stays on artificial intelligence, BCG Emeralds

As of May 1st, 2023