

Jakob J. Schoeffer

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EDUCATION

Karlsruhe Institute of Technology (KIT) <i>PhD in Information Science</i>	Karlsruhe, Germany <i>Oct. 2019 – present</i>
Georgia Institute of Technology <i>MS in Operations Research</i>	Atlanta, GA, USA <i>May 2017</i>
Karlsruhe Institute of Technology (KIT) <i>BS in Industrial Engineering and Management</i>	Karlsruhe, Germany <i>Feb. 2015</i>

KEYWORDS

Artificial intelligence (AI)-based decision-making; human-AI-collaboration; human-centered AI; perceptions of AI; algorithmic fairness; explainable AI (XAI)

PEER-REVIEWED PUBLICATIONS

- [1] **Schoeffer, J.**, Kuehl, N., Machowski, Y. (2022). *“There is not enough information”: On the effects of transparency on perceptions of informational fairness and trustworthiness in automated decision-making.* ACM Conference on Fairness, Accountability, and Transparency (FAccT '22).
- [2] **Schoeffer, J.**, De-Arteaga, M., Kuehl, N. (2022). *On the relationship between explanations, fairness perceptions, and decisions.* ACM CHI 2022 Workshop on Human-Centered Explainable AI (HCXAI). **Oral presentation**
- [3] **Schoeffer, J.** (2022). *A human-centric perspective on fairness and transparency in algorithmic decision-making.* Extended Abstracts of the 2022 CHI Conference on Human Factors in Computing Systems (CHI '22). **Doctoral consortium**
- [4] **Schoeffer, J.**, Machowski, Y., Kuehl, N. (2022). *Perceptions of fairness and trustworthiness based on explanations in human vs. automated decision-making.* 55th Hawaii International Conference on System Sciences 2022 (HICSS-55).
- [5] Hemmer, P., Kuehl, N., **Schoeffer, J.** (2022). *Utilizing active machine learning for quality assurance: A case study of virtual car renderings in the automotive industry.* 55th Hawaii International Conference on System Sciences 2022 (HICSS-55).
- [6] **Schoeffer, J.**,* Ritchie, A.,* Naggita, K.,* Monachou, F.,* Finocchiario, J.,* Juarez, M. (2021). *Online platforms and the fair exposure problem under homophily.* ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO '21). **Non-archival track b/c under review at NeurIPS** (* denotes equal contribution)
- [7] **Schoeffer, J.**, Kuehl, N. (2021). *Appropriate fairness perceptions? On the effectiveness of explanations in enabling people to assess the fairness of automated decision systems.* Companion Publication of the 2021 Conference on Computer Supported Cooperative Work and Social Computing (CSCW '21). **Poster presentation**
- [8] **Schoeffer, J.**, Kuehl, N., Valera, I. (2021). *A ranking approach to fair classification.* ACM SIGCAS Conference on Computing and Sustainable Societies (COMPASS '21).
- [9] **Schoeffer, J.**, Machowski, Y., Kuehl, N. (2021). *A study on fairness and trust perceptions in automated decision making.* Transparency and Explanations in Smart Systems (TExSS) Workshop at the 26th Annual Conference on Intelligent User Interfaces (ACM IUI 2021). **Panel presentation**
- [10] Hemmer, P., Kuehl, N., **Schoeffer, J.** (2020). *DEAL: Deep evidential active learning for image classification.* 19th IEEE International Conference on Machine Learning and Applications (ICMLA).

WORK IN PROGRESS OR UNDER REVIEW

- [1] **Schoeffer, J.**, De-Arteaga, M., Kuehl, N. (2022). *A human-subject study on the relationship between explanations, fairness perceptions, and decisions* (working title). Work in progress.
- [2] **Schoeffer, J.**, Kuehl, N., Machowski, Y. (2022). *Perceptions of informational fairness and trustworthiness in human vs. AI-based decision-making.* Under review at Business & Information Systems Engineering (BISE).
- [3] Hensel, A.,* **Schoeffer, J.**,* Kuehl, N. (2022). *Untapping analytical synergies in industrial SME ecosystems: An empirical evaluation of federated machine learning.* Under review at Decision Support Systems. (* denotes equal contribution)

- [4] Baier, L., Schloer, T., **Schoeffer, J.**, Kuehl, N. (2022). *Detecting concept drift with neural network model uncertainty*. Under review at 56th Hawaii International Conference on System Sciences 2023 (HICSS-56).
- [5] Jakubik, J.,* **Schoeffer, J.**,* Hoge, V. (2022). *An empirical evaluation of estimated outcomes as explanations in human-AI decision-making*. Under review at 4th International Workshop on Explainable Knowledge Discovery in Data Mining (XKDD) at ECML PKDD 2022.
- (* denotes equal contribution)

RELEVANT EXPERIENCE

Research Associate

Karlsruhe Institute of Technology (KIT)

Oct. 2019 – present

Karlsruhe, Germany

- Research on fairness, accountability and transparency in AI-based decision-making
- Project lead on AI-based service ecosystems, funded by the Federal Government
- Teaching of *Fundamentals of Digital Services* and *AI in Service Systems*

Visiting Researcher

The University of Texas at Austin

Jan. 2022 – Apr. 2022

Austin, TX, USA

- Research project at the intersection of explainability and fairness in AI-based decision-making
- Supervision by Prof. Maria De-Arteaga

(Senior) Data Scientist

International Business Machines Corp. (IBM)

July 2017 – Aug. 2019

Armonk, NY, USA

- Worked at the Chief Analytics Office, supporting IBM's C-suite
- Developed and implemented statistical and machine learning models for decision support
- Managed team of 5 data scientists and consultants
- Co-led team's recruiting efforts, both strategy and execution

Research and Teaching Assistant

Karlsruhe Institute of Technology (KIT)

Sept. 2013 – Aug. 2016

Karlsruhe, Germany

- Worked as a RA and TA in the field of mathematical optimization
- Offered tutorials to >100 undergraduate and graduate students
- Graded assignments and exams in mathematical optimization and stochastic modeling

OTHER

Current Extracurricular Work:

- MD4SG (Bias, Discrimination, and Fairness working group) project lead since Mar. 2020
- Data Science for Social Good (DSSG) Solve volunteer since July 2020

Invited Talks:

- *On the relationship between explanations, fairness perceptions, and decisions* @ UT Austin (Apr. 2022)
- *Perceptions of fairness and trustworthiness in AI-based decision-making* @ KIT Speaker Series (Nov. 2021)
- *(Un)Fairness in AI-based decision-making* @ Medienakademie Köln (Sept. 2021)
- *Fairness and transparency in AI-based decision-making* @ Mittelstand 4.0-Kompetenzzentrum Saarbrücken (Feb. 2021)

Academic Service:

- Program committee (PC) member at
ACM EAAMO '21, '22;
TExSS Workshop @ ACM IUI '22;
TRAIT Workshop @ ACM CHI '22;
HMCaT Workshop @ ICML '22
- Reviewing at various additional conferences (e.g., ACM CSCW, ICIS, HICSS)

Programming: Python, Java, SQL, R, MATLAB

Honors & Awards: Full-ride graduate scholarship (USA) by the German Academic Exchange Service (DAAD); Manager's Choice Award (IBM); IBM Chief Analytics Office Eminence & Excellence Award; Research travel grant (USA) by the Karlsruhe House of Young Scientists (KHYS)

Hobbies (sample): Outdoor sports, climbing, biking, squash, cooking, photography, design, modern art, music