

JOHANNES KRUSE, PhD

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Summary: As a PhD candidate, I specialize in machine learning (ML), natural language processing (NLP), and recommender systems (RS). My expertise includes extensive work in sequential modeling using transformers, recurrent neural networks (RNNs), and convolutional neural networks (CNNs), as well as theoretical studies in reinforcement learning (RL) and multi-armed bandits. I have applied my skills to solve real-world problems, delivering solutions that serve millions of users. I am a dedicated learner who thrives on challenges and is committed to continuous growth in my field.

PUBLICATIONS & PREPRINTS (8)

- Ryotaro Shimizu, Takashi Wada, Yu Wang, **Johannes Kruse**, Sean O'Brien, Sai Htaung Kham, Linxin Song, Yuya Yoshikawa, Yuki Saito, Fuguee Tsung, Masayuki Goto, Julian McAuley. *Disentangling Likes and Dislikes in Personalized Generative Explainable Recommendation*. In Proceedings of the ACM Web Conference 2025 (**WWW '25**). <https://arxiv.org/abs/2410.13248> (preprint)
- Johannes Kruse**, Kasper Lindskow, Saikishore Kalloori, Marco Polignano, Claudio Pomo, Abhishek Srivastava, Anshuk Uppal, Michael Riis Andersen, Jes Frellsen. 2024. *RecSys Challenge 2024: Balancing Accuracy and Editorial Values in News Recommendations*. In Proceedings of the 18th ACM Conference on Recommender Systems (**RecSys '24**). <https://doi.org/10.1145/3640457.3687164>
- Johannes Kruse**, Kasper Lindskow, Saikishore Kalloori, Marco Polignano, Claudio Pomo, Abhishek Srivastava, Anshuk Uppal, Michael Riis Andersen, Jes Frellsen. 2024. EB-NeRD a large-scale dataset for news recommendation. In Proceedings of the Recommender Systems Challenge 2024 (**RecSysChallenge '24**). <https://doi.org/10.1145/3687151.3687152>
- Árni Már Einarsson, Elisabetta Petrucci, Jannie Møller Hartley, **Johannes Kruse**. 2024. *"I must have clicked on something": Users' Experiences and Evaluations of Personalized News Recommender Systems*. Journalism Practice. (Accepted/In press)
- Alain Starke, Sanne Vrijenhoek, Lien Michiels, **Johannes Kruse**, Nava Tintarev. 2024. *Report on NORMalize: The Second Workshop on the Normative Design and Evaluation of Recommender Systems*. In Proceedings of CEUR Workshop Proceedings (**CEUR-WS.org**). <https://ceur-ws.org/Vol-3898/>
- Johannes Kruse**, Kasper Lindskow, Michael Riis Andersen, Jes Frellsen. 2023. *Creating the next generation of news experience on ekstrabladet.dk with recommender systems*. In Proceedings of the 17th ACM Conference on Recommender Systems (**RecSys '23**). <https://doi.org/10.1145/3604915.3610248>
- Sanne Vrijenhoek, Lien Michiels, **Johannes Kruse**, Alain Starke, Jordi Viader Guerrero, Nava Tintarev. 2023. *Report on NORMalize: The First Workshop on the Normative Design and Evaluation of Recommender Systems*. In Proceedings of CEUR Workshop Proceedings (**CEUR-WS.org**). <https://ceur-ws.org/Vol-3639/>
- Johannes Kruse** and Lars Kai Hansen. 2019. *Det Etske Råd – Redegørelse om sundhedswearables og big data*. pp. 116–141. <https://www.ft.dk/samling/20191/almdel/UER/bilag/2/2095890/index.html>

WORKSHOPS, TUTORIALS, DEMOS & OTHERS (5)

- Johannes Kruse**, Kasper Lindskow, Anshuk Uppal, Michael Riis Andersen, Jes Frellsen. 2024. *RecSys Challenge 2024: Balancing Accuracy and Editorial Values in News Recommendations*. (RecSys '24). <https://recsys.eb.dk/>
- Alain Starke, Sanne Vrijenhoek, Lien Michiels, **Johannes Kruse**, Nava Tintarev. 2024. *NORMalize 2024: The Second Workshop on Normative Design and Evaluation of Recommender Systems*. In Proceedings of the 18th ACM Conference on Recommender Systems (**RecSys '24**). <https://doi.org/10.1145/3640457.3687103>
- Alan Said, Toine Bogers, Christoph Trattner, Simen Eide, Benjamin Kille, Bruce Ferwerda, **Johannes Kruse**. 2024. *Nordic Personalization Workshop*. <https://personalizationday.github.io/2024/>
- Johannes Kruse**, Lien Michiels, Alain Starke, Nava Tintarev, Sanne Vrijenhoek. 2024. *NORMalize: A Tutorial on the Normative Design and Evaluation of Information Access Systems*. In Proceedings of the 2024 Conference on Human Information Interaction and Retrieval (**CHIIR '24**). <https://doi.org/10.1145/3627508.3638319>
- Sanne Vrijenhoek, Lien Michiels, **Johannes Kruse**, Alain Starke, Nava Tintarev, Jordi Viader Guerrero. 2023. *NORMalize: The First Workshop on Normative Design and Evaluation of Recommender Systems*. In Proceedings of the 17th ACM Conference on Recommender Systems (RecSys '23). <https://doi.org/10.1145/3604915.3608757>

EDUCATION

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|--|---|-------------------------------|---|
| 03/2024 – 06/2025 | University of California San Diego | Research Scholar | San Diego, California, USA |
| • Conducting research in Prof. Julian McAuley's lab on innovative recommender system architectures and responsible AI. | | | |
| 12/2021 – 06/2025 | Technical University of Denmark | Industrial PhD Student | Kgs. Lyngby & Copenhagen, DK |
| • Project: Responsible Recommender Systems for Danish News Publishing (RRS-DK). | | | |
| • The project is a collaboration between JP/Politiken Media Group and the Technical University of Denmark. | | | |
| • Built and deployed the first large-scale recommender system for eb.dk, increasing subscription sales by more than 38%. | | | |

INVITED TALKS

2025	AI at JP/Politikens Media Group	DN Media Group
2025	RecSys '24: Balancing Accuracy and Editorial Values in News Recommendations	Nordic AI Journalism
2024	Open-Sourcing Datasets and Designing Machine Learning Competitions	University of California San Diego
2023	Creating the Next Generation of News Experience with Recommender Systems	Nordic AI in Media Summit
2023	Creating the Next Generation of News Experience at Ekstra Bladet with AI	Nordic Personalization Day
2022	Do Recommendation Systems Generalize Across News Domains?	The University of Melbourne

AWARDS

2024	Best Use of AI in Revenue Strategy Digital Media Worldwide
2024	Best Use of AI in Revenue Strategy Digital Media Awards Europe
2023	Data and AI-driven Transformation Project of the Year Nordic DAIR Awards
2023	Best Product Iteration Global Media Awards

These awards reflect the combined efforts and accomplishments of our talented team at Platform Intellenge in News.

SCHOLARSHIPS

2024	\$26,000 in travel grants to support my research visit to the University of California San Diego.
2022	\$2,000 travel grant from DDSA to attend 16th ACM Conference on Recommender Systems, Seattle, WA, USA.
2019	\$11,000 in travel grants to support study abroad at Barcelona School of Informatics during master's studies.
2018	\$55,000 was collectively raised by 16 people to support our six-week volunteer work for EWH in Nepal.
2017	\$4,500 in travel grants to support study abroad at Rensselaer Polytechnic Institute during bachelor's studies.

\$ = USD.

OTHER

Languages	Danish (native), English (fluent), Spanish (intermediate).
Coding	Python (expert), R (proficient), SQL (intermediate), HTML (familiar).
Frameworks	PyTorch, TensorFlow, Hugging Face, Scikit-learn, SciPy, Polars, Pandas, MLFlow, Matplotlib, NumPy.
Passions	Culture (lived abroad in the United States, Australia, Greenland, and Spain), Climbing (certified rock-climbing instructor), Freediving (completed a dive to a depth of 28 meters), Hiking (almost hugged a wild bear).