JOHANNES KRUSE

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DOB: $\sqrt{9}/\sqrt{25}/\sqrt{9025}$

Summary: I specialize in machine learning, natural language processing, and recommender systems. My academic pursuits, coupled with my active participation in volunteer projects and professional roles, have cultivated my skills in strategic planning, proactive problem-solving, and efficiently structuring complex tasks. I am a disciplined learner who thrives on being challenged and seeks opportunities to continuously expand my competencies.

PUBLICATIONS

- **Johannes Kruse**, Kasper Lindskow, Saikishore Kalloori, Marco Polignano, Claudio Pomo, Abhishek Srivastava, Anshuk Uppal, Michael Riis Andersen, and 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**). Association for Computing Machinery, New York, NY, USA, 1195–1199. https://doi.org/10.1145/3640457.3687164
- **Johannes Kruse**, Kasper Lindskow, Saikishore Kalloori, Marco Polignano, Claudio Pomo, Abhishek Srivastava, Anshuk Uppal, Michael Riis Andersen, and Jes Frellsen. 2024. *EB-NeRD a large-scale dataset for news recommendation*. In Proceedings of the Recommender Systems Challenge 2024 (**RecSysChallenge '24**). Association for Computing Machinery, New York, NY, USA, 1–11. https://doi.org/10.1145/3687151.3687152
- Árni Már Einarsson, Elisabetta Petrucci, Jannie Møller Hartley, and **Johannes Kruse**. 2024. *"I must have clicked on something" - Users´ Experiences and Evaluations of Personalized News Recommender Systems.* Journalism Practice. **(Accepted)**
- **Johannes Kruse**, Kasper Lindskow, Michael Riis Andersen, and 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**). Association for Computing Machinery, New York, NY, USA, 1067–1070. https://doi.org/10.1145/3604915.3610248
- Sanne Vrijenhoek, Lien Michiels, **Johannes Kruse**, Alain Starke, Jordi Viader Guerrero, and 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 Etiske Råd – Redegørelse om sundhedswearables og big data*. pp. 116–141. https://www.ft.dk/samling/20191/almdel/UER/bilag/2/2095890/index.htm

WORKSHOPS, TUTORIALS, DEMOS & OTHERS

- **Johannes Kruse**, Kasper Lindskow, Anshuk Uppal, Michael Riis Andersen, and Jes Frellsen. 2024. *RecSys Challenge 2024: Balancing Accuracy and Editorial Values in News Recommendations*. (**RecSys '24**). Association for Computing Machinery, New York, NY, USA, 1242–1244. https://recsys.eb.dk/
- Alain Starke, Sanne Vrijenhoek, Lien Michiels, **Johannes Kruse**, and 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**). Association for Computing Machinery, New York, NY, USA, 1242–1244. https://doi.org/10.1145/3640457.3687103
- **Johannes Kruse**, Lien Michiels, Alain Starke, Nava Tintarev, and 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**). Association for Computing Machinery, New York, NY, USA, 422–424. https://doi.org/10.1145/3627508.3638319
- Sanne Vrijenhoek, Lien Michiels, **Johannes Kruse**, Alain Starke, Nava Tintarev, and 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**). Association for Computing Machinery, New York, NY, USA, 1252–1254. https://doi.org/10.1145/3604915.3608757

STUDENTS

- Zhijian Feng, 2023, Technical University of Denmark & Ekstra Bladet
  MSc thesis: *Using Image Information in Deep Learning-Based Recommender Systems for News*
- Magnus Waldemar Hoff Harder & Nikolaj Bach Meineche, 2023, Technical University of Denmark & Ekstra Bladet
  BSc thesis: *Transformer-based News Recommendations: Leveraging User Click-History with Deep Learning*

EDUCATION

03/2024 – 06/2025 **University of California San Diego** | **Visiting Scholar** **San Diego, California, USA**
- Visiting scholar at Prof. McAuley's research lab, focusing on the development of innovative recommender system architectures and advancing the explainability of such systems

12/2021 – 06/2025 **Technical University of Denmark** | **Industrial Ph.D. Student** **Kgs. Lyngby & Copenhagen, DK**
- Project title: Responsible Recommender Systems for Danish News Publishing (RRS-DK)
- The project is a collaboration between JP/Politikens Media Group and the Technical University of Denmark
- Developed and implemented the core recommendation system for EkstraBladet.dk, improving user engagement and driving significant traffic growth for the site

09/2018 – 04/2021 **Technical University of Denmark** | **MSc Applied Mathematics** **Kgs. Lyngby, DK**
- Thesis: Deep learning for Natural Language Processing. Exploring the use of Knowledge Graph technologies with the objective of enriching word embeddings. Grade: 12 (A+)
- Courses: Machine Learning, Advanced Modeling, Time Series Analysis, Computational Data Analysis, Constrained Optimization, Computational Data Analysis
- Involved in the Danish research project WriteReader by evaluating machine-generated captions with Deep Learning using Deep Residual Networks and Convolutional Neural Networks

09/2019 – 01/2020 **Barcelona School of Informatics** | **Exchange Student** **Barcelona, ES**
- Courses: Deep Learning, Kernel-based Machine Learning and Multivariate Modelling, and Human Language Engineering

09/2015 – 06/2018 **Technical University of Denmark** | **BSc Biomedical Engineering** **Kgs. Lyngby, DK**
- Thesis: Computational Neuroimaging. Investigation of transcranial magnetic stimulation variability in defined brain states by applying data analysis using Python programming. Grade: 12 (A+)
- Courses: Advanced Engineering Mathematics, Physics, General Chemistry, Human Biology, Medical Imaging

08/2017 – 12/2017 **Rensselaer Polytechnic Institute** | **Exchange Student** **New York, US**
- Courses: Biomechanics, Biomedical Product Development, Skilled Performance & Training

WORK EXPERIENCE

04/2021 – 12/2021 **Ekstra Bladet** | **Machine Learning Engineer** **Copenhagen, DK**
- Facilitated multiple workshops with project stakeholders to ensure an understanding of the complex mathematical algorithm being implemented in production and to agree on the project's goals and progress
- Responsible for model selection, framework development for model training and evaluation, and employing state-of-the-art recommendation systems for production use at ekstrabladet.dk

07/2020 – 09/2020 **Infosys Limited** | **InStep Intern** **Bangalore, IND**
- Developed a framework for a conversational search component for an existing enterprise search engine
- Built an artificial intelligence-driven application for question answering and question generation modules, utilizing state-of-the-art machine learning algorithms at that time

01/2020 – 09/2020 **Implement Consultant Group** | **Junior Consultant** **Copenhagen, DK**
- Part of the Data & Analytics team that supports companies in becoming more data-driven by optimizing their value chain
- Code contributor to multiple text mining projects utilizing machine learning algorithms to extract and visualize topics within survey data and reduce the number of organizational documents

09/2018 – 09/2019 **AudienceProject** | **Data Analyst** **Copenhagen, DK**
- Programmed software in Python for structural sentence recognition, enabling document categorization
- Worked independently with clients and as part of a team that collaborates with two of the major departments

03/2018 – 09/2018 **The Danish Ethics Committee** | **External Consultant** **Copenhagen, DK**
- Developed a working paper titled "Privacy-by-Design," which examines the possibilities of enabling citizens to secure complete control of their personal data stored in public spaces via technical means
- Facilitated constructive discussions with leading scientists in the field of cryptography and academically communicated relevant information in a comprehensive format for the members of the Ethics Committee

08/2016 – 06/2018 **Technical University of Denmark** | **Teaching Assistant** **Kgs. Lyngby, DK**
- Clarified learning objectives and promoted discussions of the syllabus. Courses: Calculus and Algebra 1 and 2
- Assisted professors in evaluating and grading mathematical assignments

02/2016 – 05/2018 **Novozymes** | **Student Assistant** **Bagsvaerd, DK**
- Calibrated and maintained laboratory equipment
- Optimized and enhanced the work process of the full-size washing machine program in the Household Care division by implementing and streamlining the calibration routine from four to six washing machines

08/2017 – 12/2017 **Rensselaer Polytechnic Institute** | **Research Assistant** **New York, US**
- Performed population studies for the Cognitive Science Department, following rigorous scientific protocols and instructing subjects on the processes of the experiment

VOLUNTEER

06/2018 – 08/2018 **Engineering World Health** | **Expatriate Volunteer** **Dolakha District, NP**

- Stationed as an engineer in a remote hospital in the Himalayas, Nepal, for a duration of six weeks
- Cooperated with the Ministry of Health of Nepal and the local hospital to contribute to the UN's 2030 development goals of ensuring universal health benefits to all people around the world

OTHER

IT Skills	Python, SQL, Git, R, Microsoft Office
Languages	Danish (Native) – English (Fluent) – Spanish (Intermediate)
Interests	Culture (Lived abroad in Greenland, Australia, United States), Climbing (certified rock-climbing instructor), Freediving (Completed an open-sea dive to 28 meters), Hiking (Almost hugged a wild bear)