Jeroen Ooge

Assistant Professor in Human-Centred Computing – Specialised in Explainable AI and Visual Analytics

Located in Belgium and the Netherlands – jeroen.ooge@outlook.com – jeroenooge.com

in, 🐦 🔵 R⁶ 🌟 Utrecht University

Research interests

As a driven researcher in human-computer interaction, I strongly believe in multidisciplinary thinking and collaboration. Through explainable AI and visual analytics, I study how AI systems can be tailored to human needs in diverse contexts. My research covers topics such as transparency, trust, model understanding, control, and uncertainty. Furthermore, I work on personalised motivational techniques for e-learning platforms (e.g., gamification), in line with my passion for learning and education.

Education

2019–2023 **PhD in Engineering Science** (summa cum laude), KU Leuven. *Explaining Artificial Intelligence with Tailored Interactive Visualisations*, supervisor Prof. dr. Katrien Verbert.

2017–2019 **Master of Science in Applied Informatics** (multimedia, magna cum laude), KU Leuven. Thesis: *Personalising motivational strategies and gamification techniques with recommender systems*.

2015–2017 **Master of Science in Mathematics** (fundamental mathematics, magna cum laude), Vrije Universiteit Brussel. Thesis: *Expander Graphs and Key Predistribution Schemes*.

Working experience

2023–now **Assistant professor** at Utrecht University, Department of Information and Computing Sciences.

2019–2023 **PhD researcher in explainable AI (XAI) and visual analytics** at KU Leuven.

- Designed and implemented XAI and visual analytics interfaces in education, healthcare, and agrifood.
- Developed prediction and recommendation models based on learning data.
- Collaborated with industrial and academic partners in XAI, learning analytics, and education.
- Presented at international research conferences and meetings.

2019–now **Educational author** at publisher die Keure (Belgium).

- Written scipts and designed visuals for educational videos on secondary school mathematics.
- Reviewed textbooks on secondary school mathematics.

Research publications (first author)

2024 **Nudging Adolescents Towards Recommended Maths Exercises With Gameful Rewards**. Jeroen Ooge, Joran De Braekeleer, Katrien Verbert. In *Artificial Intelligence in Education, 25th International Conference*.

2023 **Steering Recommendations and Visualising Its Impact: Effects on Adolescents' Trust in E-Learning Platforms**. Jeroen Ooge, Leen Dereu, and Katrien Verbert. In *IUI '23: 28th International Conference on Intelligent User Interfaces*. DOI: 10.1145/3581641.3584046.

2022 **Visually Explaining Uncertain Price Predictions in Agrifood: A User-Centred Case-Study**. Jeroen Ooge, and Katrien Verbert. In *Agriculture*, 2022. DOI: 10.3390/agriculture12071024.

Explaining Recommendations in E-Learning: Effects on Adolescents' Trust. Jeroen Ooge*, Shotallo Kato*, and Katrien Verbert. In *IUI '22: 27th International Conference on Intelligent User Interfaces*. DOI: 10.1145/3490099.3511140.

Explaining Artificial Intelligence with Tailored Interactive Visualisations. Jeroen Ooge, and Katrien Verbert. In *IUI '22 Companion: 27th International Conference on Intelligent User Interfaces*. DOI: 10.1145/3490100.3516481.

Explaining artificial intelligence with visual analytics in healthcare. Jeroen Ooge, Gregor Stiglic, and Katrien Verbert. In *WIREs Data Mining Knowledge Discovery*, 2021. DOI: 10.1002/widm.1427.

2021 **Trust in Prediction Models: a Mixed-Methods Pilot Study on the Impact of Domain Expertise**. Jeroen Ooge, and Katrien Verbert. *2021 IEEE Workshop on TRust and EXpertise in Visual Analytics (TREX)*, 2021. DOI: 10.1109/TREX53765.2021.00007.

2020 **Tailoring gamification for adolescents: a validation study of Big Five and Hexad in Dutch**. Jeroen Ooge, Robin De Croon, Katrien Verbert, and Vero Vanden Abeele. In *CHI PLAY '20: Proceedings of the Annual Symposium on Computer-Human Interaction in Play*. DOI: 10.1145/3410404.3414267.

Research publications (co-author)

2024 **Feedback, Control, or Explanations? Supporting Teachers With Steerable Distractor-Generating AI**. Maxwell Szymanski, Jeroen Ooge, Robin De Croon, Vero Vanden Abeele, Katrien Verbert. In *Proceedings of the 14th Learning Analytics and Knowledge Conference*. DOI: 10.1145/3636555.3636933.

2023 **Towards a Comprehensive Human-Centred Evaluation Framework for Explainable AI**. Ivania Donoso-Guzmán, Jeroen Ooge, Denis Parra, Katrien Verbert. In *World Conference on Explainable Artificial Intelligence*. DOI: 10.1007/978-3-031-44070-0_10.

Directive explanations for monitoring the risk of diabetes onset: Introducing directive data-centric explanations and combinations to support what-if explorations. Aditya Bhattacharya, Jeroen Ooge, Gregor Stiglic, and Katrien Verbert. In *IUI '23: 28th International Conference on Intelligent User Interfaces*. DOI: 10.1145/3581641.3584075.

2022 **Developing Visual-Assisted Decision Support Systems across Diverse Agricultural Use Cases**. Nyi-Nyi Htun, Diego Rojo, Jeroen Ooge, Robin De Croon, Aikaterini Kasimati, and Katrien Verbert. In *Agriculture*, 2022. DOI: 10.3390/agriculture12071027.

Teaching experience

2023–now **Lecturer**, Utrecht University.

○ Usability Engineering and User Experience (Bachelor)

2023–now **Supervisor of 2 bachelor's theses** in Informatics at Utrecht University.

2023–now **Supervisor of 2 master's theses** in AI and Human Computer Interaction at Utrecht University.

2020–2024 **Supervisor of 8 master's theses** in Applied Informatics and Computer Science at KU Leuven.

2019–2023	**Teaching assistant**, KU Leuven.

- Fundamentals for Informatics (Bachelor)
- Fundamentals Human-Computer Interaction (Master)
- Information Visualisation (Master)

2014–2019 **Private tutor** for mathematics, physics, chemistry, and informatics (primary school, secondary school, and bachelor). Freelance and for companies: Solutio vzw (2017) and Slaagsleutels (2018–2019).

2015–2017 **Tutor** for mathematics and physics bachelor students, Vrije Universiteit Brussel.

Committees and academic services

2022–now **Reviewer** for journals (e.g., Transactions in Intelligent Systems, AI Reviews), conferences (e.g., Intelligent User Interfaces, Recommender Systems, CHI, IEEE VIS, World Conference on XAI), and workshops (e.g., Trust and Expertise in Visual Analytics, Human-Centred XAI, Adaptive Lifelong Learning).

2022–2023 Academic staff representative in the Department of Computer Science at KU Leuven.

Ombuds person for the master of Digital Humanities at KU Leuven.

External assessor of master's theses at KU Leuven in Applied Informatics and Computer Science.

Invited talks

2023 Visual explanations for AI decisions: Fostering trust with transparency and control (TRAIL seminar at Sorbonne University).

Explaining AI with Tailored Interactive Visualisations (Hong Kong Baptist University).

2019 Explainable Machine Learning and Visual Analytics in Healthcare (University of Maribor).

Awards and honours

2024 🏆 4 special recognitions for outstanding reviews at IUI2024 and CHI2024.

2023 🏆 FWO Grant for a long stay abroad at Carnegie Mellon University.

2023 🏆 Gary Marsden Travel Award.

2023 🏆 Award for best assistent in informatics in 2022–2023, granted by student union Wina.

2022 🏆 Award for best assistent in informatics in 2021–2022, granted by student union Wina.

2019 🏆 Shortlist (top 5) for Klasseprijs, award for the best master's thesis on education in Flanders.

Other skills

Computer skills: HTML, CSS, Javascript, Drupal, Java, PHP, Matlab, Haskell, Prolog, Python, R, Meteor, React, Docker, Git, D3, LaTeX, Excel, Outlook, PowerPoint, Publisher, Word, etc.

Languages: Dutch (native); English and French (fluent); Spanish, German, and Greek (basic).