

Tobias Vente

Mail • LinkedIn • GitHub • Google Scholar • Personal Website

EDUCATION

Ph.D. in Computer Science	Expected May 2026
Joint Ph.D. University of Siegen, Siegen, Germany & University of Antwerp, Antwerp, Belgium	
M.Sc. in Computer Science	Jan 2019 - Aug 2021
University of Siegen, Siegen, Germany	GPA: 3.8/4
Student Exchange - M.Sc. in Computer Science	Aug 2018 - Jun 2019
University of Tulsa, Tulsa, OK, USA	GPA: 4/4
B.Sc. in Computer Science	Jan 2019
University of Siegen, Siegen, Germany	

EMPLOYMENT HISTORY

SAP SE Internship	Aug 2020 - Nov 2020
<ul style="list-style-type: none">Developed data visualizations to streamline SAP cloud platform persistence test procedures	
SAP SE Internship	Jun 2019 - Sep 2019
<ul style="list-style-type: none">Built resilient test infrastructure for SAP cloud platforms, reducing manual testing time by 30%	
University of Siegen Teaching Assistant	Oct 2017 - Sep 2020
<ul style="list-style-type: none">Coordinated laboratory sessions and designed exercises for the Algorithms and Data Structures courseCoordinated laboratory sessions and designed exercises for the Object-Oriented and Functional Programming lecture	
Faurecia Automotive GmbH Internship	Oct 2017 - Sep 2020
<ul style="list-style-type: none">Designed and implemented databases for efficient storage of production data	
NetFederation GmbH Internship	Aug 2016 - Oct 2016
<ul style="list-style-type: none">Deployed an internal communication chat tool using ROCKET.CHAT for enhanced team collaboration	

RESEARCH VISITS

University of Gothenburg Department of Applied Information Technology	Feb 2024 - Mar 2024
<ul style="list-style-type: none">Research on recommender systems' energy use and environmental impact; under Prof. Alan Said	
University of Antwerp ADRem Research Group	Jan 2024 - Feb 2024
<ul style="list-style-type: none">Research on efficient collaborative filtering recommender systems algorithms; under Prof. Bart Goethals.	

TECHNICAL SKILLS & RESEARCH INTERESTS

Programming:	Python, C, C++, Java, SQL
Frameworks:	Pytorch, Scikit-Learn, Git, Numpy, Pandas, Scipy
Research Focus:	model evaluation, (automated) recommender systems, recommendation algorithms, machine learning
Soft Skills:	team work, critical thinking, problem solving, creativity
Languages Spoken:	English, German, Spanish (basic)

HONORS & ACCOLADES

Germany Full Scholarship of the Konrad Adenauer Foundation	Oct 2017 - Dez 2021
<ul style="list-style-type: none">Scholarship holder of the scholarship program for gifted students	
Tulsa, OK, USA Presidential Honor Award	Jun 2019
<ul style="list-style-type: none">Award for outstanding academic performance	

OPEN-SOURCE PROJECTS

EMERS EMERS: Energy Meter for Recommender Systems	GitHub: ISG-Siegen/emers
LensKit-Auto An automated (AutoRecSys) toolkit for offline evaluation based on LensKit	GitHub: ISG-Siegen/lenskit-auto

PEER-REVIEWED ACADEMIC PUBLICATIONS

Conferences:

1. | *From Clicks to Carbon: The Environmental Toll of Recommender Systems*
T. Vente, L. Wegmeth, A. Said, J. Beel ACM RecSys 2024 (Full Paper, Reproducibility Track)
2. | *Recommender Systems Algorithm Selection for Ranking Prediction on Implicit Feedback Datasets*
L. Wegmeth, T. Vente, J. Beel ACM RecSys 2024 (LBR Paper)
3. | *Revealing the Hidden Impact of Top-N Metrics on Optimization in Recommender Systems*
L. Wegmeth, T. Vente, L. Purucker ECIR 2024 (Full Paper)
4. | *From Theory to Practice: Implementing and Evaluating e-Fold Cross-Validation*
C. Mahlich, T. Vente, J. Beel CAIMLR 2024 (Full Paper)
5. | *Introducing LensKit-Auto, an Experimental Automated Recommender System (AutoRecSys) Toolkit*
T. Vente, M.D. Ekstrand, J. Beel ACM RecSys 2023 (Demo Track)
6. | *Advancing Automation of Design Decisions in Recommender System Pipelines*
T. Vente ACM RecSys 2023 (Doctoral Symposium)

Workshops:

1. | *Greedy Ensemble Selection for Top-N Recommendations*
T. Vente, Z. Mehta, L. Wegmeth, J. Beel ACM RecSys 2024 (RobustRecSys Workshop (Full Paper))
2. | *Removing Bad Influence: Identifying and Pruning Detrimental Users in Collaborative Filtering Recommender Systems*
P. Meister, L. Wegmeth, T. Vente, J. Beel ACM RecSys 2024 (RobustRecSys Workshop (Short Paper))
3. | *EMERS: Energy Meter for Recommender Systems*
L. Wegmeth, T. Vente, A. Said, J. Beel ACM RecSys 2024 (RecSoGood Workshop (Short Paper))
4. | *e-Fold Cross-Validation for Recommender-System Evaluation*
M. Baumgart, L. Wegmeth, T. Vente, J. Beel ACM RecSys 2024 (RecSoGood Workshop (Short Paper))
5. | *Sustainable Recommender Systems: Optimizing Dataset Size for Energy-Efficient Algorithm Performance*
A. Arabzadeh, T. Vente, J. Beel ACM RecSys 2024 (RecSoGood Workshop (Short Paper))
6. | *The Effect of Random Seeds for Data Splitting on Recommendation Accuracy*
L. Wegmeth, T. Vente, L. Purucker, J. Beel ACM RecSys 2023 (PERSPECTIVES Workshop)