

Tobias Vente

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EDUCATION

Ph.D. in Computer Science	Expected June 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

Tsinghua University Department of Computer Science and Technology	Feb 2025 - Mar 2025
<ul style="list-style-type: none">Research on automation techniques in recommender systems; under Prof. Min Zhang	
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

Antwerp, Belgium Doctoral Scholarship Holder at the University of Antwerp	June 2025 - June 2026
<ul style="list-style-type: none">Awarded a doctoral scholarship by the University of Antwerp's Doctoral School	
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

ACADEMIC SERVICES & HONORARY ACTIVITIES

Peer Reviewer

Since Jan 2023

For the AutoML23, SIGIR24, RecSys24 and RecSys25

Chairman Musikverein Bilstein 1888 e.V.

Since Jan 2024

Chairman of an orchestra with 65 active musicians and 20 young musicians in music education.

Math Tutor

Since Mar 2015

Bachelor's & Master's Level, University of Siegen

RAISED FUNDING

2024 | Raised Funding

- DAAD Kongressreiseprogramm (for attending ACM RecSys Conference 2024)
- ACM RecSys Europe School 2024 Student Grant
- ERASMUS+ Short-Term Doctoral Mobility (for a research visit to Gothenburg, Sweden)
- ERASMUS+ Short-Term Doctoral Mobility (for an internship at the University of Antwerp, Belgium)

2023 | Raised Funding

- ACM RecSys Conference 2023 Student Grant
- ACM RecSys Summer School 2023 Student Grant

PEER-REVIEWED ACADEMIC PUBLICATIONS

Journals:

1. | *Green Recommender Systems: Understanding and Minimizing the Carbon Footprint of AI-Powered Personalization*

L. Wegmeth*, **T. Vente***, A. Said, J. Beel

ACM Transactions on Recommender Systems

Conferences:

1. | *APS Explorer: Navigating Algorithm Performance Spaces for Informed Dataset Selection*

T. Vente, M. Heep, A. Abbas, T. Sperle, J. Beel, B. Goethals

ACM RecSys 2025 (Demo Paper)

2. | *Automated Learning of Software Configuration Spaces is not Easy*

M. Weiß, R. Müller, L. Güthing, **T. Vente**, L. Wegmeth, I. Schaefer, M. Lochau

ACM SPLC 2025 (Full Paper)

3. | *Checky, the Paper-Submission Checklist-Generator for Authors, Reviewers and LLMs*

J. Beel, B. Gipp, D. Jannach, A. Said, L. Wegmeth, **T. Vente**

ECIR 2025 (Demo Paper)

4. | *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)

5. | *Recommender Systems Algorithm Selection for Ranking Prediction on Implicit Feedback Datasets*

L. Wegmeth, **T. Vente**, J. Beel

ACM RecSys 2024 (LBR Paper)

6. | *Revealing the Hidden Impact of Top-N Metrics on Optimization in Recommender Systems*

L. Wegmeth, **T. Vente**, L. Purucker

ECIR 2024 (Full Paper)

7. | *From Theory to Practice: Implementing and Evaluating e-Fold Cross-Validation*

C. Mahlich, **T. Vente**, J. Beel

CAIMLR 2024 (Full Paper)

8. | *Introducing LensKit-Auto, an Experimental Automated Recommender System (AutoRecSys) Toolkit*

T. Vente, M.D. Ekstrand, J. Beel

ACM RecSys 2023 (Demo Paper)

9. | *Advancing Automation of Design Decisions in Recommender System Pipelines*

T. Vente

ACM RecSys 2023 (Doctoral Symposium)

Workshops:

1. | *The Potential of AutoML for Recommender Systems*

T. Vente, L. Wegmeth, J. Beel

ACM UMAP 2025 (HyPer Workshop (Full Paper))

2. | *Greedy Ensemble Selection for Top-N Recommendations*

T. Vente, Z. Mehta, L. Wegmeth, J. Beel

ACM RecSys 2024 (RobustRecSys Workshop (Full Paper))

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| 3. | <i>Removing Bad Influence: Identifying and Pruning Detrimental Users in Collaborative Filtering Recommender Systems</i> | P. Meister, L. Wegmeth, T. Vente , J. Beel | ACM RecSys 2024 (RobustRecSys Workshop (Short Paper)) |
| 4. | <i>EMERS: Energy Meter for Recommender Systems</i> | L. Wegmeth, T. Vente , A. Said, J. Beel | ACM RecSys 2024 (RecSoGood Workshop (Short Paper)) |
| 5. | <i>e-Fold Cross-Validation for Recommender-System Evaluation</i> | M. Baumgart, L. Wegmeth, T. Vente , J. Beel | ACM RecSys 2024 (RecSoGood Workshop (Short Paper)) |
| 6. | <i>Sustainable Recommender Systems: Optimizing Dataset Size for Energy-Efficient Algorithm Performance</i> | A. Arabzadeh, T. Vente , J. Beel | ACM RecSys 2024 (RecSoGood Workshop (Short Paper)) |
| 7. | <i>The Effect of Random Seeds for Data Splitting on Recommendation Accuracy</i> | L. Wegmeth, T. Vente , L. Purucker, J. Beel | ACM RecSys 2023 (PERSPECTIVES Workshop) |