

# Tobias Vente

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## EDUCATION

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

## EMPLOYMENT HISTORY

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

## RESEARCH VISITS

<b>Tsinghua University   Department of Computer Science and Technology</b>	Feb 2025 - Mar 2025
<ul style="list-style-type: none"><li>Research on automation techniques in recommender systems; under Prof. Min Zhang</li></ul>	
<b>University of Gothenburg   Department of Applied Information Technology</b>	Feb 2024 - Mar 2024
<ul style="list-style-type: none"><li>Research on recommender systems' energy use and environmental impact; under Prof. Alan Said</li></ul>	
<b>University of Antwerp   ADReM Research Group</b>	Jan 2024 - Feb 2024
<ul style="list-style-type: none"><li>Research on efficient collaborative filtering recommender systems algorithms; under Prof. Bart Goethals.</li></ul>	

## TECHNICAL SKILLS & RESEARCH INTERESTS

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

## HONORS & ACCOLADES

<b>Antwerp, Belgium   Doctoral Scholarship Holder at the University of Antwerp</b>	June 2025 - June 2026
<ul style="list-style-type: none"><li>Awarded a doctoral scholarship by the University of Antwerp's Doctoral School</li></ul>	
<b>Germany   Full Scholarship of the Konrad Adenauer Foundation</b>	Oct 2017 - Dez 2021
<ul style="list-style-type: none"><li>Scholarship holder of the scholarship program for gifted students</li></ul>	
<b>Tulsa, OK, USA   Presidential Honor Award</b>	Jun 2019
<ul style="list-style-type: none"><li>Award for outstanding academic performance</li></ul>	

## 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))

3. | *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))
4. | *EMERS: Energy Meter for Recommender Systems*  
L. Wegmeth, **T. Vente**, A. Said, J. Beel  
ACM RecSys 2024 (RecSoGood Workshop (Short Paper))

5. | *e-Fold Cross-Validation for Recommender-System Evaluation*  
M. Baumgart, L. Wegmeth, **T. Vente**, J. Beel  
ACM RecSys 2024 (RecSoGood Workshop (Short Paper))
6. | *Sustainable Recommender Systems: Optimizing Dataset Size for Energy-Efficient Algorithm Performance*  
A. Arabzadeh, **T. Vente**, J. Beel  
ACM RecSys 2024 (RecSoGood Workshop (Short Paper))
7. | *The Effect of Random Seeds for Data Splitting on Recommendation Accuracy*  
L. Wegmeth, **T. Vente**, L. Purucker, J. Beel  
ACM RecSys 2023 (PERSPECTIVES Workshop)