Tobias Vente

Mail • LinkedIn • GitHub • Google Scholar • Personal Website

EDUCATION

Ph.D. in Computer Science — Expected May 2026
Ph.D. Candidate at the University of Siegen, Siegen, Germany

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
- Developed data visualizations to streamline SAP cloud platform persistence test procedures

SAP SE | *Internship* — Jun 2019 - Sep 2019
- Built resilient test infrastructure for SAP cloud platforms, reducing manual testing time by 30%

University of Siegen | *Teaching Assistant* — Oct 2017 - Sep 2020
- Coordinated laboratory sessions and designed exercises for the Algorithms and Data Structures course
- Coordinated laboratory sessions and designed exercises for the Object-Oriented and Functional Programming lecture

Faurecia Automotive GmbH | *Internship* — Oct 2017 - Sep 2020
- Designed and implemented databases for efficient storage of production data

NetFederation GmbH | *Internship* — Aug 2016 - Oct 2016
- 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
- Research on automation techniques in recommender systems; under Prof. Min Zhang

University of Gothenburg | *Department of Applied Information Technology* — Feb 2024 - Mar 2024
- Research on recommender systems' energy use and environmental impact; under Prof. Alan Said

University of Antwerp | *ADReM Research Group* — Jan 2024 - Feb 2024
- 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
- Scholarship holder of the scholarship program for gifted students

Tulsa, OK, USA | *Presidential Honor Award* — Jun 2019
- 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, and RecSys24

Chairman *Musikverein Bilstein 1888 e.V.* Since Jan 2024

With 65 active musicians and 20 young musicians currently undergoing music education.

Math Tutor Since Mar 2015

For children in my hometown.

PEER-REVIEWED ACADEMIC PUBLICATIONS

Conferences:

1. | *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)

2. | *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)

3. | *Recommender Systems Algorithm Selection for Ranking Prediction on Implicit Feedback Datasets*
L. Wegmeth, **T. Vente**, J. Beel ACM RecSys 2024 (LBR Paper)

4. | *Revealing the Hidden Impact of Top-N Metrics on Optimization in Recommender Systems*
L. Wegmeth, **T. Vente**, L. Purucker ECIR 2024 (Full Paper)

5. | *From Theory to Practice: Implementing and Evaluating e-Fold Cross-Validation*
C. Mahlich, **T. Vente**, J. Beel CAIMLR 2024 (Full Paper)

6. | *Introducing LensKit-Auto, an Experimental Automated Recommender System (AutoRecSys) Toolkit*
T. Vente, M.D. Ekstrand, J. Beel ACM RecSys 2023 (Demo Paper)

7. | *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)