

# Sarah Mameche

📍 CISPA Helmholtz Center for Information Security, Germany

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🔗 [sarah-page.vercel.app](https://sarah-page.vercel.app)   [github.com/srhmm](https://github.com/srhmm)



**Research Interests**   *Causality* – causal modelling and discovery under unknown interventions; under latent confounding; and from unknown mixtures of populations.  
*Distribution Shift* – non-IID continuous data and non-stationary time series.

## Education

<b>Ph.D. Candidate in Computer Science</b> <i>CISPA Helmholtz Center for Information Security (Advisor: Prof. Jilles Vreeken)</i>	<i>Sept. 2021-</i>
<b>B.Sc. and M.Sc. in Computer Science</b> (1.3/max. 1.0) <i>Saarland University</i>	<i>2015-2021</i>
<b>Abitur</b> (1.0/max. 1.0) <i>Geschwister-Scholl Gymnasium, Lebach</i>	<i>2014</i>

## Employment

<b>Student Researcher</b> <i>CISPA Helmholtz Center for Information Security</i>	<i>2021</i>
<b>Student Researcher</b> <i>SFB 1102, Computational Linguistics</i>	<i>2015 – 2020</i>

## Teaching

<b>Elements of Machine Learning (TA)</b> <i>Prof. Isabel Valera, Dr. Aleksandar Bojchevski &amp; Prof. Jilles Vreeken</i>	<i>2022 &amp; 2024</i>
<b>Optimization (Tutor)</b> <i>Dr. Andreas Karrenbauer</i>	<i>2019</i>
<b>Theoretical Computer Science (Tutor)</b> <i>Prof. Raimund Sadel</i>	<i>2016</i>

## Projects

<b>LaTeX library for scientific plotting</b> A library extending TikZ/pgfplots with functionalities to create scientific plots, providing cleaner looks, consistent styles, and macros.	<a href="https://github.com/srhmm/prettypplots">github.com/srhmm/prettypplots</a>
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## Activities

<b>Student Supervision</b> <ul style="list-style-type: none"><li>◦ <b>M.Sc. Thesis</b> by Maya Hilwani, <i>Causal Clustering</i>. 2025.</li><li>◦ <b>M.Sc. Thesis</b> by Ahmed Musa, <i>Regressception: Exploiting Variances in Regression Coefficients for Discovering Causality and Confounding</i>. 2024.</li></ul>
<b>Conference Reviewing</b> NeurIPS, AISTATS, AAAI, KDD

## Languages

<b>German</b> native	<b>English</b> Cambridge CAE Advanced Certificate, C1 (2015)	<b>Spanish</b> Unicert I Certificate
<b>French</b> Intermediate	<b>Latin</b> kleines Latinum	<b>Greek</b> Beginner

## Publications

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- **Information-Theoretic Causal Discovery in Topological Order** *AISTATS, 2025*  
Sascha Xu\*, **S.M.\***, Jilles Vreeken  
*International Conference on Artificial Intelligence and Statistics (AISTATS)*
- **SPACETIME: Causal Discovery from Non-Stationary Time Series** *AAAI, 2025*  
**S.M.**, Lénaïg Cornanguer, Urmi Ninad\*, Jilles Vreeken\*  
*Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*
- **Identifying Confounding from Causal Mechanism Shifts** *AISTATS, 2024*  
**S.M.**, Jilles Vreeken, David Kaltenpoth  
*International Conference on Artificial Intelligence and Statistics (AISTATS)*
- **Learning Causal Networks from Episodic Data** *KDD, 2024*  
Osman Mian\*, **S.M.\***, Jilles Vreeken  
*ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*
- **Learning Causal Models under Independent Changes** *NeurIPS, 2023*  
**S.M.**, David Kaltenpoth, Jilles Vreeken  
*Advances in Neural Information Processing Systems (NeurIPS)*
- **Discovering Invariant and Changing Mechanisms from Data** *KDD, 2022*  
**S.M.**, David Kaltenpoth, Jilles Vreeken  
*Proceedings of the 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining*

## Theses

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- **Learning Causality from Non-IID and Non-Stationary Distributions** *to be submitted, 2025*  
*Dissertation towards Dr. rer. nat., Faculty of Mathematics and Computer Science, Saarland University (supervised by Prof. Jilles Vreeken)*
- **Causal Inference from Different Contexts using Algorithmic Causal Models** *2021*  
*M.Sc. Thesis, Saarland University (supervised by Prof. Jilles Vreeken)*
- **Strong Normalization of the  $\lambda$ -Calculus in LEAN** *2019*  
*B.Sc. Thesis, Saarland University (supervised by Prof. Gert Smolka)*