

Nina Corvelo Benz

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<https://ninacobe.github.io>

PROFILE SUMMARY

My **research interests** lie in the design of **collaborative decision-support systems** to improve human-decision making, leveraging tools from **machine learning, causality** and **uncertainty estimation**.

EDUCATION	Ph.D. in Computer Science 06/2021–10/2025 Max Planck Institute for Software Systems (MPI-SWS) & ETH Zurich , Zurich, Switzerland <i>Thesis:</i> Human-Centric Machine Learning in Healthcare <i>Advisor:</i> Manuel Gomez-Rodriguez Spending autumn/winter 2024 at MPI of Biochemistry, Munich – hosted by Karsten Borgwardt
	Master of Science in Computer Science 09/2018–08/2020 ETH Zurich , Zurich, Switzerland <i>Grade:</i> 5.36/6 <i>Focus:</i> Theoretical Computer Science and Machine Learning <i>Thesis:</i> Using Inhibitory Signals for Error Encodings in Networks with Tuning Curves <i>Advisor:</i> Angelika Steger
	Bachelor of Science in Computer Science 09/2014–09/2018 ETH Zurich , Zurich, Switzerland <i>Grade:</i> 5.42/6 <i>Thesis:</i> Call Admission Problems on Trees <i>Advisor:</i> Juraj Hromkovič Spent spring 2017 at POSTECH, Pohang, South Korea – exchange program
PROFESSIONAL EXPERIENCE	Postdoctoral Researcher 12/2025 - Now Max Planck Institute of Biochemistry , Munich, Germany
	Doctoral Researcher 06/2021 - 11/2025 Max Planck Institute for Software Systems , Kaiserslautern, Germany
	Research Intern 06/2020–11/2020 Oracle Labs Switzerland , Zurich, Switzerland <i>Topics:</i> Graph Structure based Entity Resolution, ML boosted Address Matching
PUBLICATIONS	Conference Proceedings
	(*): equal contribution (A): alphabetical ordering
	Conference publications in computer science are archival and going through highly selective peer review.
	1. Human-Alignment Influences the Utility of AI-assisted Decision Making <i>Scientific Reports</i> 15.1, 2025. Nina Corvelo Benz and Manuel Gomez-Rodriguez

2. **Counterfactual Token Generation in Large Language Models**
4th Conference on Causal Learning and Reasoning (CLear 2025)
 Ivi Chatzi, **Nina Corvelo Benz**, Eleni Straitouri, Stratis Tsirtsis, Manuel Gomez-Rodriguez
3. **Matchings, Predictions and Counterfactual Harm in Refugee Resettlement Processes**
4th Conference on Causal Learning and Reasoning (CLear 2025)
 Seungeon Lee, **Nina Corvelo Benz**, Suhas Thejaswi, Manuel Gomez-Rodriguez
4. **Detecting antimicrobial resistance through MALDI-TOF mass spectrometry with statistical guarantees using conformal prediction**
29th Conference on Research in Computational Molecular Biology (RECOMB 2025)
Nina Corvelo Benz*, Lucas Miranda*, Dexiong Chen, Karsten Borgwardt, Janko Sattler
5. **Human-Aligned Calibration for AI-Assisted Decision Making**
37th Conference on Neural Information Processing Systems (NeurIPS 2023)
Nina Corvelo Benz and Manuel Gomez Rodriguez
6. **Counterfactual Inference of Second Opinions**
38th Conference on Uncertainty in Artificial Intelligence (UAI 2022)
Nina Corvelo Benz and Manuel Gomez Rodriguez
7. **Call Admission Problems on Trees with Advice**
30th International Workshop on Combinatorial Algorithms (IWOCA 2019)
 (A) Hans-Joachim Bröckenhauer, **Nina Corvelo Benz** and Dennis Komm

Pre-prints

1. **Towards Human-AI Complementarity in Matching Tasks**
In Arxiv, 2025.
 Adrian Arnaiz-Rodriguez, **Nina Corvelo Benz**, Suhas Thejaswi, Nuria Oliver, and Manuel Gomez-Rodriguez
2. **Evaluation of Large Language Models via Coupled Token Generation**
In Arxiv, 2025.
Nina Corvelo Benz, Stratis Tsirtsis, Eleni Straitouri, Ivi Chatzi, Ander Artoia Velasco, Suhas Thejaswi, Manuel Gomez-Rodriguez

TEACHING

Teaching Assistant Winter Semester 2023
 University of Kaiserslautern-Landau (RPTU), Kaiserslautern, Germany
Seminar: Human-Centric Machine Learning

Teaching Assistant Winter Semester 2018 & 2019
 ETH Zurich, Zurich, Switzerland
Course: Theoretical Computer Science

SCIENTIFIC COMMUNITY ACTIVITIES

Workshop organizing

NeurIPS 2025 Workshop Chair Assistant 2025

ICML Workshop on Counterfactuals in Minds and Machines, 07/2023
 Hawaii, USA

Co-organized with Stratis Tsirtsis, Ricardo Dominguez-Olmedo, Isabel Valera, Manuel Gomez-Rodriguez, Amir-Hossein Karimi, Thorsten Joachims and Sarah Wu

Reviewing

TLMR (2024, 2025), UAI (2023, 2024, 2025), ICML 2024, AISTATS 2023

TECHNICAL SKILLS

Programming Languages: Python, Java, C++, R

Database Systems: MySQL

Libraries: Numpy, Pandas, Keras, PGX, StellarGraph, Elasticsearch

Editing tools: L^AT_EX, Microsoft Excel, MS Word, MS PowerPoint

LANGUAGES

English (fluent), German (fluent), Portuguese (native), Spanish (advanced), Greek (Beginner), Korean (Beginner)