

Nina Corvelo Benz

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PROFILE SUMMARY

Fourth year Ph.D. Student in Computer Science at MPI-SWS and ETH Zurich under the [ELLIS PhD Program](#). 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 (exp. conclusion)**
Max Planck Institute for Software Systems (MPI-SWS) &
ETH Zurich, Zurich, Switzerland
Thesis: Human-Centric Machine Learning in Healthcare
Advisor: 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 *Grade: 5.36/6*
Focus: Theoretical Computer Science and Machine Learning
Thesis: Using Inhibitory Signals for Error Encodings in Networks with Tuning Curves
Advisor: Angelika Steger

Bachelor of Science in Computer Science **09/2014–09/2018**
ETH Zurich, Zurich, Switzerland *Grade: 5.42/6*
Thesis: Call Admission Problems on Trees
Advisor: Juraj Hromkovič
Spent spring 2017 at POSTECH, Pohang, South Korea – exchange program

PROFESSIONAL EXPERIENCE **Doctoral Researcher** **06/2021 - Now**
Max Planck Institute for Software Systems, Kaiserslautern, Germany

Research Intern **06/2020–11/2020**
Oracle Labs Switzerland, Zurich, Switzerland
Topics: 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. **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

2. **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
3. **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
4. **Human-Aligned Calibration for AI-Assisted Decision Making**
37th Conference on Neural Information Processing Systems (NeurIPS 2023)
Nina Corvelo Benz and Manuel Gomez Rodriguez
5. **Counterfactual Inference of Second Opinions**
38th Conference on Uncertainty in Artificial Intelligence (UAI 2022)
Nina Corvelo Benz and Manuel Gomez Rodriguez
6. **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. **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
2. **Human-Alignment Influences the Utility of AI-assisted Decision Making**
In Arxiv, 2025.
Nina Corvelo Benz and 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

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)