

Corinna Hertweck

PHD STUDENT · ALGORITHMIC FAIRNESS

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Research Interests

Algorithms design and audit of algorithms, definitions and measures of algorithmic fairness, machine learning
Social Justice gender and racial discrimination, social equity, migration, criminal justice, algorithmic hiring

Education

Ph.D. in Computer Science

University of Zurich

SINCE 06/2020

Zurich, Switzerland

- Discrimination in automated decision making systems, measurement of fairness
- Advisors: [Anikó Hannák](#), [Christoph Heitz](#)

M.Sc. in Computer Science

University of Helsinki

08/2018 - 05/2020

Helsinki, Finland

- Study track: discrete algorithms and machine learning
- Final grade: 5.0 (highest achievable grade)
- Master's thesis on data-driven design of robust affirmative action policies
- Advisors: [Michael Mathioudakis](#), [Antti Ukkonen](#), [Carlos Castillo](#)

B.Sc. in Applied Computer Science

Duale Hochschule Baden-Württemberg

10/2013 - 09/2016

Karlsruhe, Germany

- Final grade: 1.0 (highest achievable grade)
- Bachelor's thesis on reducing technical debt through improved software architecture

Experience

Research Assistant

Zurich University of Applied Sciences

SINCE 06/2020

Zurich, Switzerland

- Interdisciplinary project "[Socially acceptable and fair AI](#)"
- Building a tool for the visualization of fairness measurement

Research Assistant

University of Zurich

SINCE 06/2023

Zurich, Switzerland

- Interdisciplinary project "Assessing the scale of place-based platform labour in Switzerland"

Research Assistant

Zurich University of Applied Sciences

07/2021 - 06/2022

Zurich, Switzerland

- Collaboration with AlgorithmWatch Switzerland on the exhibit "[\(Un\)fair Algorithms](#)"
- Part of the larger exhibition "Planet Digital" at the Museum für Gestaltung, Zurich

Research Assistant

University of Helsinki

07/2019 - 03/2020

Helsinki, Finland

- Project "Designing Affirmative Action Policies under Uncertainty"
- Design of affirmative action policies for university admissions in Chile based on large set of historic data
- Evaluated the effect of policies on intersectional groups

Software Developer

Atruvia AG

10/2016 - 07/2018

Karlsruhe, Germany

- Worked on the company's banking application as a Java developer at a department with a codebase of 5+ million lines of code
- Co-created two projects at cross-company hackathons that received funding for further development

Web Development Intern

07/2015 – 08/2015

Rick Hansen Foundation

Vancouver, Canada

- Continued development of a web application that allows users to rate the accessibility of different venues

Integrated Degree Program Student

10/2013 – 09/2016

Atruvia AG

Karlsruhe, Germany

- Alternated between working and studying every three months
- Worked on the development of various parts of Atruvia's banking application and database management

Publications

** indicates equal contribution*

Eleonora Viganó, **Corinna Hertweck**, Christoph Heitz, Michele Loi (2022). People Are Not Coins: Morally Distinct Types of Predictions Necessitate Different Fairness Constraints. In *Proceedings of the 2022 ACM Conference on Fairness, Accountability, and Transparency*.

Corinna Hertweck*, and Tim Rätz* (2022). Gradual (In)Compatibility of Fairness Criteria. In *Proceedings of the 2022 AAAI Conference on Artificial Intelligence* (Vol. 36, No. 11, pp. 11926-11934).

Corinna Hertweck, Carlos Castillo, Michael Mathioudakis (2022). Designing Affirmative Action Policies under Uncertainty. In the *Journal of Learning Analytics*.

Sara Zaman, **Corinna Hertweck** (2022). Methods for Uncovering Discourses That Shape the Urban Imaginary in Helsinki's Smart City. *Frontiers in Sustainable Cities*.

Samuel Wehrli, **Corinna Hertweck**, Mohammadreza Amirian, Stefan Glüge, and Thilo Stadelmann (2021). Bias, Awareness, and Ignorance in Deep-Learning-Based Face Recognition. *AI and Ethics*, (pp. 1-14).

Corinna Hertweck, Christoph Heitz (2021). A Systematic Approach to Group Fairness in Automated Decision Making. In *2021 8th Swiss Conference on Data Science (SDS)*, (pp. 1-6). Best Paper in Ethical, Legal, and Social Issues (ELSI) of Data Science.

Corinna Hertweck, Christoph Heitz, Michele Loi (2021). On the Moral Justification of Statistical Parity. In *Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency* (pp. 747-757). Best Student Paper award.

Honors & Awards

2021	Best Paper in Ethical, Legal, and Social Issues (ELSI) of Data Science SDS'21 , Paper "A Systematic Approach to Group Fairness in Automated Decision Making"	<i>SDS'21</i>
2021	Best Student Paper Award FAccT'21 , Paper "On the Moral Justification of Statistical Parity"	<i>FAccT'21</i>
2016	"Informatik-Förderpreis" , Computer science advancement award	<i>Förderverein der Dualen Hochschule Baden-Württemberg Karlsruhe e.V.</i>
2016	"Urkunde für die Jahrgangsbeste des Studiengangs Informatik" , Award for the student with the highest ranking in the computer science programme	<i>Duale Hochschule Baden-Württemberg Karlsruhe</i>

Organizing

2023	General Chair, 2nd European Workshop on Algorithmic Fairness , 3 days, 104 registrations, budget of about CHF 60k	<i>Winterthur, Switzerland</i>
2022	General Chair, 1st European Workshop on Algorithmic Fairness (EWAf'22) , 2 days, 48 participants, budget of about CHF 10k	<i>Zurich, Switzerland</i>
2022	Organizer, Panel discussion on "(Un)fair Algorithms" , panel discussion for the general public	<i>Zurich, Switzerland</i>

Service

Reviewing	FAccT 2023, NeurIPS 2023, Philosophy & Technology, Ethics and Information Technology, AFair-AMLD 2023, NeurIPS 2021 (Track Datasets and Benchmarks), IC2S2 2021
Volunteering	IC2S2 2021, FAccT 2020

Teaching Experience

Spring 2023	Bachelor level course "Artificial Intelligence 2" , Teaching Assistant	<i>Zurich University of Applied Sciences</i>
Spring 2022	Bachelor level course "Informatics, ethics and society" , Teaching Assistant	<i>University of Zurich</i>
02/2021	Bachelor level course "People Analytics and Evidence-based Management" , Guest lecture on "Fairness in Machine Learning"	<i>Online, University of Konstanz, Germany</i>

Invited Talks & Panel Discussions

12.05.2023	Forschungskolloquium Wissenschaftsphilosophie , "Distributive Justice as the Foundational Premise of Fair ML: Unification, Extension, and Interpretation of Group Fairness Metrics"	<i>University of Bern</i>
06.09.2021	Panel discussion on "Artificial Intelligence - Chances and Risks" , Panel discussant	<i>Digital Winterthur</i>
06.07.2021	Workshop "Fairness and Diversity in Statistics" , "On the Moral Justification of Statistical Parity"	<i>Online, University College London</i>

Organizations

Since 01/2021	Community Engagement - Regional lead (Europe) , Mechanism Design for Social Good (MD4SG)	<i>https://www.md4sg.com/</i>
Since 01/2021	Member , PhD students in AI ethics	<i>https://phdaiethics.com/</i>
Since 06/2020	Member , PhD Network in Data Science	<i>https://phd-data-science.ch/</i>
08/2019 –	Mapathon organizer , Helsinki's Humanitarian	<i>Helsinki, Finland</i>
05/2020	OpenStreetMap Team	<i>https://www.hotosm.org/</i>
04/2017 –	Civic tech activist and lab co-lead , OK Lab Karlsruhe, Code	<i>Karlsruhe, Germany</i>
07/2018	for Germany	<i>https://ok-lab-karlsruhe.de/en/</i>