

# Corinna Hertweck

PHD STUDENT · ALGORITHMIC FAIRNESS

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## Research Interests

**Algorithms** design and audit of algorithms, definitions and measures of algorithmic fairness, limitations of AI  
**Social Justice** gender and racial discrimination, social equity, migration, criminal justice, activism, 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

University of Zurich

SINCE 11/2024

Zurich, Switzerland

- Continuation of the interdisciplinary project "[Assessing the scale of place-based platform labour in Switzerland](#)"

### Research Assistant

Zurich University of Applied Sciences

06/2020 - 07/2024

Zurich, Switzerland

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

### Research Assistant

University of Zurich

06/2023 - 11/2023

Zurich, Switzerland

- Interdisciplinary project "[Assessing the scale of place-based platform labour in Switzerland](#)"
- Advised four students on a Bachelor's thesis, a Master's project and an independent study related to the project

### 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

10/2016 – 07/2018

Atruvia AG

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

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\* indicates equal contribution

**Hertweck, Corinna**, Christoph Heitz, and Michele Loi (2024). What's Distributive Justice Got to Do with It? Rethinking Algorithmic Fairness from the Perspective of Approximate Justice. To appear in *Proceedings of the 2024 AAAI/ACM Conference on AI, Ethics, and Society*.

**Hertweck, Corinna**, Michele Loi, and Christoph Heitz (2024). Group Fairness Refocused: Assessing the Social Impact of ML Systems. In *2024 11th Swiss Conference on Data Science (SDS)*, (pp. 189-196).

Holly Hoch, **Corinna Hertweck**, Michele Loi, and Aurelia Tamò-Larrieux (2024). Discrimination for the sake of fairness by design and its legal framework. *Computer Law & Security Review*, 52, 105916.

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

2024	<b>Honorable Mention - Best Paper Award</b> , Paper “Group Fairness Refocused: Assessing the Social Impact of ML Systems”	SDS’24
2021	<b>Best Paper in Ethical, Legal, and Social Issues (ELSI) of Data Science SDS’21</b> , Paper “A Systematic Approach to Group Fairness in Automated Decision Making”	SDS’21
2021	<b>Best Student Paper Award FAccT’21</b> , Paper “On the Moral Justification of Statistical Parity”	FAccT’21
2016	<b>“Informatik-Förderpreis”</b> , Computer science advancement award	Förderverein der Dualen Hochschule Baden-Württemberg Karlsruhe e.V.
2016	<b>“Urkunde für die Jahrgangsbeste des Studiengangs Informatik”</b> , Award for the student with the highest ranking in the computer science programme	Duale Hochschule Baden-Württemberg Karlsruhe

## Organizing

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

## Service

<b>Reviewing</b>	EWAf 2024, FAccT 2023, NeurIPS 2023, Philosophy & Technology, Ethics and Information Technology, AFair-AMLD 2023, NeurIPS 2021 (Track Datasets and Benchmarks), IC2S2 2021
<b>Volunteering</b>	IC2S2 2021, FAccT 2020

## Teaching Experience

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

## Invited Talks & Panel Discussions

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

## Organizations

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