

Unai Fischer Abaigar

CONTACT INFORMATION	<p> Ludwigstr. 33, 80539 Munich, Germany Unai.FischerAbaigar@stat.uni-muenchen.de www.unaifischerabaigar.com </p>		
EDUCATION	<p> University of Munich (LMU), Munich, Germany Ph.D. in Statistics October 2022 - </p> <ul style="list-style-type: none"> Advisors: Frauke Kreuter, Christoph Kern Affiliated researcher at the Munich Center for Machine Learning <p> Ruprecht Karl University of Heidelberg, Heidelberg, Germany M.Sc. in Physics, German Grade: 1.0 (US GPA: 4.00) March 2022 </p> <ul style="list-style-type: none"> Thesis: <i>Modeling Ordinal Mobile Data with Sequential Variational Autoencoders</i> Selected coursework: <i>Algorithms and Data, Advanced Machine Learning, Computational Statistics and Data Analysis, Chaotic, Complex and Evolving Environmental Systems, Machine Learning meets Graph Theory, Time Series Analysis and Recurrent Neural Networks, Theoretical Quantum Statistics</i> <p> Ruprecht Karl University of Heidelberg, Heidelberg, Germany B.Sc. in Physics February 2020 </p> <ul style="list-style-type: none"> Thesis: <i>Modeling the Evolution of Cooperation through Indirect Reciprocity</i> <p> Leibniz Kolleg, University of Tübingen, Tübingen, Germany One year liberal arts program July 2016 </p> <tr> <td>RESEARCH EXPERIENCE</td><td> <p> SEAS, Harvard University, Cambridge, MA, USA <i>Fellow</i> Sep 2024 - Dec 2024 </p> <ul style="list-style-type: none"> Hosted by Cynthia Dwork and Juan Carlos Perdomo at the <i>Harvard Center for Research on Computation and Society</i> Worked on algorithmic targeting of interventions, focusing on tradeoffs and considerations in applying machine learning to public sector resource allocations <p> Data Science Lab, Hertie School, Berlin, Germany <i>Research Associate</i> May 2022 - July 2022 </p> <ul style="list-style-type: none"> Hosted by Slava Jankin and Lynn Kaack Identified future avenues for applying machine learning methods in government and public policy <p> Central Institute of Mental Health, Mannheim, Germany <i>Research Assistant at Living Lab AI4U</i> Mar 2022 - Oct 2022 </p> <ul style="list-style-type: none"> Developed generative RNN models to predict emotional trajectories from mobile phone time series data in order to recommend personalized mental health interventions Managed technical work, coordinating with public mental health specialists, school psychologists and software developers <p> <i>Research Intern</i> Apr 2020 - Dec 2020 </p> <ul style="list-style-type: none"> Hosted by Daniel Durstewitz at the Dept. of Theoretical Neuroscience Worked on sequential VAEs to uncover underlying dynamical systems of neural time series data </td></tr>	RESEARCH EXPERIENCE	<p> SEAS, Harvard University, Cambridge, MA, USA <i>Fellow</i> Sep 2024 - Dec 2024 </p> <ul style="list-style-type: none"> Hosted by Cynthia Dwork and Juan Carlos Perdomo at the <i>Harvard Center for Research on Computation and Society</i> Worked on algorithmic targeting of interventions, focusing on tradeoffs and considerations in applying machine learning to public sector resource allocations <p> Data Science Lab, Hertie School, Berlin, Germany <i>Research Associate</i> May 2022 - July 2022 </p> <ul style="list-style-type: none"> Hosted by Slava Jankin and Lynn Kaack Identified future avenues for applying machine learning methods in government and public policy <p> Central Institute of Mental Health, Mannheim, Germany <i>Research Assistant at Living Lab AI4U</i> Mar 2022 - Oct 2022 </p> <ul style="list-style-type: none"> Developed generative RNN models to predict emotional trajectories from mobile phone time series data in order to recommend personalized mental health interventions Managed technical work, coordinating with public mental health specialists, school psychologists and software developers <p> <i>Research Intern</i> Apr 2020 - Dec 2020 </p> <ul style="list-style-type: none"> Hosted by Daniel Durstewitz at the Dept. of Theoretical Neuroscience Worked on sequential VAEs to uncover underlying dynamical systems of neural time series data
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	Data Lab/AI, sovanta AG, Heidelberg, Germany	
	<i>Student Trainee</i>	May 2019 - May 2020
	<ul style="list-style-type: none"> Worked on the development of a machine learning application used for financial resource allocation for the clinical research projects of a top pharmaceutical company 	
	Institute of Environmental Physics, Heidelberg University, Heidelberg, Germany	
	<i>Research Intern</i>	Feb 2019 - Apr 2020
	<ul style="list-style-type: none"> Contributed to Utopia, a modeling framework for complex adaptive systems with a focus on network models and cellular automata 	
HONORS AND AWARDS	Konrad Zuse School for Excellence in Reliable AI	May 2023 -
	<ul style="list-style-type: none"> Selected for advanced training and funding program with the aim of training AI experts with a dual focus on technical brilliance and AI's implications for society 	
	German Academic Scholarship Foundation (Studienstiftung)	Oct 2016 - Mar 2020
	<ul style="list-style-type: none"> Awarded to fewer than 0.5% of German students for exceptional academic abilities and societal contributions; Germany's oldest and most prestigious scholarship program 	
SELECTED PUBLICATIONS	<p>Fischer-Abaigar, U., C. Kern, and J. C. Perdomo (2025). "The Value of Prediction in Identifying the Worst-Off". In: <i>Proceedings of the 42nd International Conference on Machine Learning (ICML)</i>. Oral Presentation @ ICML 2025, Highlight Track @ FORC 2025.</p> <p>Kern, C., U. Fischer-Abaigar, J. Schweisthal, D. Frauen, R. Ghani, S. Feuerriegel, M. van der Schaar, and F. Kreuter (2025). "Algorithms for reliable decision-making need causal reasoning". In: <i>Nature Computational Science</i>. ISSN: 2662-8457. DOI: 10.1038/s43588-025-00814-9.</p> <p>Fischer-Abaigar, U., C. Kern, N. Barda, and F. Kreuter (2024). "Bridging the gap: Towards an expanded toolkit for AI-driven decision-making in the public sector". In: <i>Government Information Quarterly</i> 41.4, p. 101976. ISSN: 0740-624X. DOI: https://doi.org/10.1016/j.giq.2024.101976.</p> <p>Fischer-Abaigar, U., C. Kern, and F. Kreuter (2024). "The Missing Link: Allocation Performance in Causal Machine Learning". In: <i>Workshop on Humans, Algorithmic Decision-Making and Society, ICML 2024</i>.</p>	
TALKS	<i>Universal Adaptability</i> , ITACOSM 2025, Bologna University, US	July 2025
	<i>The Value of Prediction in Identifying the Worst-Off</i> , FORC 2025, Stanford University, US	June 2025
	<i>The Value of Prediction in Identifying the Worst-Off</i> , Social Foundations of Computation, Max Planck Institute for Intelligent Systems, Tübingen, Germany	May 2025
	<i>Algorithmic Decision-Making in the Public Sector</i> , Theory of Computation Graduate Student Seminar, Harvard, Cambridge, MA	Oct 2024
	<i>Introduction to Automated Decision-Making</i> , Coleridge Initiative, UMD, Virtual	Oct 2024
	<i>Machine Learning for Reliable Decision-Making</i> , Zuse Industry Workshop on Algorithmic Decision-Making, Virtual	Apr 2024
	<i>Challenges for ML-Supported Decision-Making</i> , Dept. of Statistics, LMU, Munich, Germany	Jan 2024
TEACHING EXPERIENCE	University of Munich (LMU), Munich, Germany	
	<i>Co-Instructor</i>	
	<i>Advanced Methods in Social Statistics and Social Data Science</i> , Graduate Course	Summer 2024, 2025
	<i>Machine Learning meets Causality</i> , Graduate Seminar	Winter 2023
	<i>Graduate Assistant</i>	
	<i>Computational Social Science</i> , Graduate Course	Winter 2022, 2023

	Ruprecht Karl University of Heidelberg , Heidelberg, Germany	
	<i>Graduate Assistant</i>	
	<i>Machine Learning for Real-World Challenges</i> , Graduate Seminar	Summer 2022
	<i>Dynamical Systems Theory in Machine Learning</i> , Graduate Course	Winter 2021
PROFESSIONAL ACTIVITIES	Data Science for Social Good Munich <i>Project Management</i>	November 2022 -
	<ul style="list-style-type: none"> Co-organizer of a yearly two month paid fellowship program where aspiring data scientist work on real-world machine learning problems for the social good 	
	DataFest Germany 2023 <i>Organizational Team Member</i>	April 2023
	<ul style="list-style-type: none"> Co-organized the sixth edition of DataFest, a data analysis hackathon 	
	Network Particle World (Netzwerk Teilchenwelt) <i>Fellow Coordinator for Heidelberg</i>	March 2017 - July 2018
SELECTED WORKSHOPS AND TRAINING	3rd MCML Workshop on Causal Machine Learning , Munich, Germany	Aug 2024
	AI School for CS and OR Education , College Park, MD	May 2024
	Multigroup Fairness and the Validity of Statistical Judgment , Simons Institute, Berkeley	April 2023
	Bit from It - Information Geometry and Causality , Weimar, Germany	Sep 2019, Oct 2021
	Legal and Technical Aspects of Digital Privacy , Leysin, Switzerland	August 2017