

Camila Kolling dos Reis

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EDUCATION

Max Planck Institute for Software Systems (MPI-SWS) & Saarland University (UdS) Ph.D. in Computer Science	Germany 2023 - Present [expected: 2028]
Advisors: Dr. Mariya Toneva (MPI-SWS); Co-advisor: Dr. Krishna Gummadi (MPI-SWS).	
Pontificia Universidade Católica do Rio Grande do Sul (PUCRS) M.S. in Computer Science	Brazil 2020 - 2022
- GPA: 9.95/10. - Final research thesis: Mitigating Bias in Facial Analysis Systems by Incorporating Label Diversity. Published at SIBGRAPI 2023. - Advisor: Dr. Soraia Raupp Musse (PUCRS); Co-advisor: Dr. Adriano Veloso (UFMG).	
Pontificia Universidade Católica do Rio Grande do Sul (PUCRS) B.S. in Computer Engineering	Brazil 2015 - 2020
- GPA: 9.45/10. Best student award of all engineering courses of the university. - Final project: Component Analysis for Visual Question Answering Architectures. Best final project award of the computer engineering class. Published at IJCNN 2020.	

EXPERIENCE

Max Planck Institute for Software Systems (MPI-SWS) Research Assistant	Dec 2022 - Present Saarbrücken, Germany
In the current project, I am advised by Dr. Mariya Toneva and co-advised by Dr. Krishna Gummadi. My research interests lie at the intersection between Machine Learning and Neuroscience. The goal is to investigate and develop brain-inspired machine learning systems and better understand how the brain processes information using machine learning methods. My research initially focused on representations in vision models and has more recently shifted to large language models.	
Max Planck Institute for Software Systems (MPI-SWS) Research Internship	Aug 2022 - Nov 2022 Saarbrücken, Germany
I investigated techniques for measuring representation similarity between neural networks. I was advised by Dr. Krishna Gummadi and Dr. Mariya Toneva.	
Max Planck Institute for Software Systems (MPI-SWS) Research Internship	Nov 2021 - Feb 2022 Saarbrücken, Germany
I worked with solutions to adversarial attacks, and evaluation of human perception in the deep learning domain. I was advised by Dr. Krishna Gummadi.	
Google Brain Research Internship	Aug 2021 - Nov 2021 Warsaw, Poland
I worked on problems related to computer vision. Specifically, I worked with Transformer-based architectures for improving zero-shot visual question answering. My hosts were Neil Houlsby, Xiaohua Zhai, and Matthias Minderer.	
Kunumi Research Engineer / Machine Learning Engineer	Jan 2020 - Aug 2021 Porto Alegre, Brazil
My research focused on applying artificial intelligence techniques for social good. My goal was to build fair, explainable and bias-resilient neural networks. I also worked on the development of a process-based data platform that behaves like an automatic prediction engine.	
Kunumi Data Science Internship	Jan 2018 - Jan 2020 Porto Alegre, Brazil
I implemented techniques to enhance the interpretability of deep neural networks in projects related to intensive care units and worked on the development and improvement of a natural language processing model for a conversational assistant.	
Pontificia Universidade Católica do Rio Grande do Sul (PUCRS) Research Internship	Mar 2016 - Jan 2018 Porto Alegre, Brazil
I joined a project whose goal was to develop a new assistive robot programming environment that was capable of teaching programming skills for kids and young people with visual impairments. I later changed projects and developed an AI using Symbolic Behavior Recognition and Hierarchical Task Network recognizers.	

SELECTED PUBLICATIONS (FOR COMPLETE LIST PLEASE FOLLOW THIS LINK)

Large Language Models as Model Organisms for Human Associative Learning <i>Camila Kolling, Vy Vo, Mariya Toneva</i>	NeurIPS 2025
Non-Monotonic Plasticity in Large Language Models <i>Camila Kolling, Mariya Toneva</i>	CCN 2025
Investigating the Effects of Fairness Interventions Using Pointwise Representational Similarity <i>Camila Kolling, Till Speicher, Vedant Nanda, Mariya Toneva, Krishna P. Gummadi</i>	TMLR 2025
Do Invariances in Deep Neural Networks Align with Human Perception? <i>Vedant Nanda, Ayan Majumdar, Camila Kolling, John P. Dickerson, Krishna P. Gummadi, Bradley C. Love, Adrian Weller</i>	AAAI 2023
Measuring Representational Robustness of Neural Networks Through Shared Invariances <i>Vedant Nanda, Till Speicher, Camila Kolling, John P. Dickerson, Krishna P. Gummadi, Adrian Weller</i>	ICML (Long Oral) 2022

HONORS & AWARDS

Selected to attend the 13th Heidelberg Laureate Forum in Sep/2026	2026
Received funding by the Boehringer Ingelheim Fonds to attend the NeuroAI Course	2025
Engineer of the Year Award by Rio Grande do Sul Engineering Society (SERGS)	2019
Student Highlight Award by the Brazilian Computing Society (SBC)	2019
Best Grades of All Engineering Courses Award by PUCRS	2019
Best Final Project of the Computer Engineering Class by PUCRS	2019

TECHNICAL SKILLS

Programming languages: Python (advanced) , C (basic) , Java (basic)
ML/AI: Pytorch (advanced) , Numpy (advanced) , Pandas (advanced) , JAX (basic)

LANGUAGES

Portuguese (native)	English (fluent)	German (intermediate)
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SERVICE

Reviewer	ICML 2022	EAAMO 2023
	NeurIPS 2023	ECIR 2024
	ICML 2024	NeurIPS 2025

EXTRACURRICULAR ACTIVITIES

German Proficiency Course Level: B1.1	2023 - Present Online
NeuroAI: Neuroscience and AI Summer Course CAJAL	2025 Lisbon, Portugal
AI Alignment Course AI Safety Fundamentals	2024 Online
The Cornell, Maryland, Max Planck School Pre-doctoral Research School	2022 Saarbrücken, Germany
The Cornell, Maryland, Max Planck School Pre-doctoral Research School	2020 Virtual
KHIPU Latin American Meeting in Artificial Intelligence	2019 Montevideo, Uruguay
Presented a Talk: Deep Learning for Computer Vision The Developer’s Conference POA	2018 Porto Alegre, Brazil
Python for Data Science and Machine Learning Bootcamp Offered by Udemy in partnership with Pierian Data International	2017 Virtual
Machine Learning Course Offered by Stanford University in partnership with Coursera	2017 Virtual
First Certificate in English (FCE) University of Cambridge	2013 Porto Alegre, Brazil
Student Exchange to Bedford (England) English Language Course at Embassy Summer Bedford (Polhill)	Jun, 2013 - Aug, 2013 Bedford, England
Student Exchange to Toronto (Canada) English Language Study at ILSC Education Group	Jan, 2013 - Feb, 2013 Toronto, Canada
Basic German Certificate (A2) Pastor Dohms School	2012 Porto Alegre, Brazil
Basic German Certificate (A1) Pastor Dohms School	2011 Porto Alegre, Brazil