

# ALINA HERDERICH

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Graz University of Technology, Institute of Interactive Systems and Data Science | PhD Candidate

[Harvard Business School, Digital Emotions Lab (Goldenberg Lab) | Visiting Fellow]

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## EDUCATION

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2021 - today	<b>PhD (Dr. rer. nat.) Computer Science</b> Graz University of Technology, Institute of Interactive Systems and Data Science, Computational Social Science Lab Austria Advisor: Prof. David Garcia Thesis: Construct-ER: A computational approach to the development of emotion regulation theory and measurement
2019 - 2020	<b>Computer Science Certificate</b> (25 ECTS), Route 63 Graz University of Technology Grade: 1.0 (12th March 2020)
2018 - 2020	<b>M.Sc. Psychology</b> University of Graz Advisor: Prof. Harald Freudenthaler Thesis: How Does Flexibility in Emotion Regulation Relate to Dimensions of Adaptivity? Development and Validation of a New Measure for ER Repertoire and Flexibility. Grade: 1.1 (30th September 2020)
2016 - 2018	<b>B.Sc. Psychology</b> University of Graz Grade: 1.3 (19th March 2018)
2013	<b>Chinese Language &amp; Culture Studies</b> (20 ECTS), exchange semester Shanghai Normal University Grade: 90/100
2011 - 2015	<b>B.Sc. Business Psychology &amp; Economics</b> University of Lüneburg Grade: 1.5 (24th March 2015)
2011	<b>Abitur</b> (German university entrance qualification) Albert-Schweitzer-Gymnasium Crailsheim Grade: 1.0 (07th July 2011)

## QUALIFICATIONS

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Natural Languages	German (mother tongue), English (C1), Chinese (B2), French & Spanish (~A2)
Programming Languages	Python, SQL
Prizes	High-School Diploma Prize of the German Mathematical Association

## RESEARCH EXPERIENCE

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09/2023 - 08/2024	<b>Visiting Fellow @Goldenberg Lab, Harvard, Cambridge, Massachusetts, USA</b> Research projects: Developing a taxonomy of reappraisal types, and investigating the reappraisal ability of large language models (GPT) against humans, supported by various scholarships (see <i>Funding</i> )
2021 - today	<b>Doctoral Researcher @Graz University of Technology</b>
2021 - today	<b>Cooperation with Prof. Mirta Galesic @Santa Fe Institute, New Mexico, USA</b> Research project on the effectiveness of counter speech strategies in online political discourse under the NSF grant <i>Exploration-exploitation tradeoff and opinion diversity in real-world groups</i> (Award ID: 1757211)
2018	<b>Research Internship (3 months)</b> Charité Universitätsmedizin Berlin, Department of Anesthesiology and Operative Intensive Care Medicine (CCM/CVK) Biomarker Development for Postoperative Cognitive Impairment in the Elderly ( <a href="http://www.biocog.eu">www.biocog.eu</a> )

## TALKS

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07/2024	<b>International Conference for Computational Social Science (IC2S2) 2024</b> <i>A computational method to reveal psychological constructs from text data</i>
03/2024	<b>Annual Conference of the Society for Affective Science (SAS) 2024</b> , symposium presentation, symposium chair <i>Inferring a data-driven taxonomy of emotion regulation strategies with computational methods</i> , in: Understanding affective experiences with natural language processing
02/2024	<b>Annual Convention of the Society of Personality and Social Psychology (SPSP) 2024</b> , poster presentation <i>Inferring a data-driven taxonomy of emotion regulation strategies with computational methods</i>
07/2023	<b>International Conference for Computational Social Science (IC2S2) 2023</b> <i>Improving discourse quality in online discussions: A large-scale, longitudinal study of influencing speech characteristics</i>
07/2023	<b>International Conference on Network Science (NetSci) 2023</b> <i>Improving discourse quality in social media networks: A large-scale, longitudinal study of influencing speech characteristics</i>
06/2023	<b>Chinese Bridge Competition Austria, 2nd place</b> Language competition hosted by the Confucius Institute Vienna <i>'One World, One Nation' (天下一家) through the eyes of a psychologist</i>
08/2022	<b>European Forum Alpbach</b> Alpbach Technology Talks hosted by the Austrian Institute of Technology <i>Breaking the Wall of Emotional Well-Being</i>
06/2022	<b>Conference of the Consortium of European Research on Emotion (CERE) 2022</b> <i>Deriving emotion regulation strategy classes using a computational grounded theory</i>

*approach*

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05/2022 **Falling Walls Lab Austria**, 2nd place  
Competition, pitching an innovative research idea in just three minutes  
*Breaking the Wall of Emotional Well-Being*

## TEACHING

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06/2024 **Workshop: Before model training - Crafting high-quality text annotations for machine learning**  
International Conference on Web and Social Media (ICWSM) 2024

2021 **Workshop: A psychologist's guide to machine learning**  
University of Zurich, for researchers at the department of psychology

2020 **Teaching Assistant Databases & Data Management**  
Graz University of Technology

## FUNDING

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2023 - 2024 **Agency for Education and Internationalization Austria, OeAD (19,920 €)**  
*Marietta Blau Scholarship* to support visiting fellow activity at Harvard University in the academic year of 23/24 (partially claimed)

2023 - 2024 **Marshall Plan Foundation Austria (10,000 €)**  
Scholarship to support visiting fellow activity at Harvard University in the academic year of 23/24

2023 - 2024 **German Academic Scholarship Foundation (24,300 USD)**  
*ERP scholarship* to support visiting fellow activity at Harvard University in the academic year of 23/24 (partially claimed)

## ADDITIONAL QUALIFICATIONS

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07/2022 **Complexity-GAINS summer school (2 weeks)**  
Santa Fe Institute, New Mexico & Complexity Science Hub, Vienna  
Disintegration of societies: Quantitative modeling of complex socio-behavioral systems

2019 - 2021 **Data Team**  
Graz University of Technology  
Participating in data science challenges in teams  
/ ASHRAE - Great Energy Predictor III (How much energy will a building consume?)  
/ Jigsaw Multilingual Toxic Comment Classification (Identify toxic online comments.)  
/ HuBMAP - Hacking the Kidney (Identify glomeruli in images of the human kidney.)

## SERVICE

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2022 - today **Doc School Speaker** and elected member of the **PhD Union**  
Student representative for the student body of the Doctoral School of Computer Science, and all PhD students at TU Graz

## OUTSIDE ACADEMIA

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2015 - 2016	<b>GGH Mullen Lowe Hamburg</b> (advertising agency) Junior strategic planner E.ON, Seat, Fielmann, international new business
2015	<b>FCB Hamburg</b> (advertising agency, 6 months) Strategic planning internship NIVEA, international level
2014	<b>Publicis Pixelpark</b> (advertising agency, 6 months) Strategic planning internship Barmer GEK, Telekom, VISA, BNP Paribas, Swarovski

## PUBLICATIONS

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Herderich, A., Freudenthaler, H. H., & Garcia, D. (2024). A Computational Method to Reveal Psychological Constructs from Text Data. *Psychological Methods*, Advance online publication. <https://doi.org/10.1037/met0000700>

Lasser, J.\*, Herderich, A.\*, Garland, J., Aroyehun, S. T., Garcia, D., & Galesic, M. (2023). Collective moderation of hate, toxicity, and extremity in online discussions. <https://arxiv.org/abs/2303.00357>

Herderich, A.\*, Lasser, J.\*, Galesic, M., Aroyehun, S. T., Garcia, D., & Garland, J. (2024). Measuring complex psychological and sociological constructs in large-scale text. <https://doi.org/10.31234/osf.io/tzc9p>

Li, J. Z., Herderich, A., & Goldenberg, A. (2024). Skill but not Effort Drive GPT Overperformance over Humans in Cognitive Reframing of Negative Scenarios. <https://doi.org/10.31234/osf.io/fzvd8>

Röseler, L., Kaiser, L., Doetsch, C. A., Klett, N., Seida, C., Schütz, A., ... Zhang, Y. (2024). The Replication Database: Documenting the Replicability of Psychological Science. *Journal of Open Psychology Data*, 12(8), 1–23. <https://doi.org/10.5334/jopd.101>

Frank, M., Grüning, D. J., Pronizius, E., Korbmacher, M., Elsherif, M. M., Bergmann, L., ... Herderich, A. (2024). Mapping students' Open Science attitudes and preferences: Country and education level differences - PCI RR Stage 1 Report. <https://doi.org/10.31219/osf.io/7gbvp>

\* shared first authorship