

Prof. Dr.-Ing. Ribana Roscher

Curriculum Vitae

Contact Information

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Google Scholar, YouTube, LinkedIn

Key Competences

Explainable machine learning, uncertainty quantification, (deep) representation/feature learning, data analysis and machine learning for remote sensing applications such as plant phenotyping

Academic Positions

- Since 12/15 Junior professor of remote sensing, University of Bonn, Institute of Geodesy and Geoinformation, Germany
- 05/21-12/21 Guest professor (W2), Technical University of Munich, International Future Lab for Artificial Intelligence 'Artificial Intelligence for Earth Observation: Reasoning, Uncertainties, Ethics and Beyond (AI4EO)'
- 04/19-03/20 Deputy professor (W2) of Semantic Technology, University of Osnabrück, Institute of Computer Science
- 09/18-11/18 Visiting researcher, Institute for Pure and Applied Mathematics, University of California, Los Angeles, USA, participation in the long-term program 'Science at extreme scales: where big data meets large-scale computing'
- 01/15-06/15 Visiting researcher, Fields Institute for Research in Mathematical Sciences, Toronto, Canada, participation in the long-term program 'Statistical inference, learning and models for big data'
- 10/13-12/15 Research assistant, Freie Universität Berlin, Institute of Geographical Sciences, Remote Sensing and Geoinformatics, Germany
- 08/13-09/13 Research assistant, University of Bonn, Institute of Geodesy and Geoinformation, Department of Photogrammetry, Germany
- 06/13-07/13 Research assistant, Julius Kühn-Institut, Institute for Grapevine Breeding, Siebeldingen, Germany
- 04/13-05/13 Research assistant, Humboldt-Innovation, Berlin, Germany
- 01/09-03/13 Research assistant, University of Bonn, Institute of Geodesy and Geoinformation, Department of Photogrammetry, Germany

Education

- 01/09-09/12 PhD student, University of Bonn, Institute of Geodesy and Geoinformation, Department of Photogrammetry, Germany, supervisor: Prof. Dr.-Ing. Dr. h.c. mult. Wolfgang Förstner
- 10/04-12/08 Student of Geodesy, University of Bonn, Institute of Geodesy and Geoinformation, Department of Photogrammetry, Germany

Scientific Activities

Committee and Working Group Activities

- Since 2021 Co-Chair, Scientific advisory committee of the Helmholtz Imaging Platform (HIP)
- Since 2021 Chair, technical committee 7 of the International Association for Pattern Recognition 'Remote Sensing and Mapping'
 - 2021 Organizer, 11th IAPR International Workshop on Pattern Recognition in Remote Sensing (PRRS 2020), in conjunction with ICPR
- 2016-2021 Co-chair, ISPRS working group II/6 'Large-scale Machine Learning for Geospatial Data Analysis'
- Since 2018 Steering group member, transdisciplinary research area 6 of the University of Bonn 'Innovation and Technology for Sustainable Futures'
- Since 2018 Co-chair, technical committee 7 of the International Association for Pattern Recognition 'Remote Sensing and Mapping'
- Since 2017 Convenor-team member, working group 7 of Gesellschaft für Geodäsie, Geoinformation und Landmanagement
 - 2017 Principal investigator, scientific initiative: 'ISPRS benchmark challenge on large scale classification of VHR geospatial data'
 - Program committee member: MACHine Learning for EArth ObservatioN (MACLEAN), Large Scale Computer Vision for Remote Sensing Imagery (EARTH-VISION), Computer Vision Problems in Plant Phenotyping (CVPPP), International Society for Photogrammetry and Remote Sensing (ISPRS) Hannover Workshop, Joint Urban Remote Sensing Event (JURSE), Workshop on Pattern Recognition in Remote Sensing (PRRS)

Reviewing and Editing Activities

- Since 2022 Associate editor, Frontiers in AI
- Since 2020 Associate editor, Photogrammetric Engineering & Remote Sensing
 - 2020 Guest editor, Machine Learning and Knowledge Extraction, special issue on explainable machine learning
 - 2017 Guest editor, ISPRS International Journal of Geo-Information, special issue on machine learning for geospatial data analysis
 - Reviewer: German Science Foundation (DFG), IEEE Transactions on Neural Networks and Learning Systems, ISPRS Journal of Photogrammetry and Remote Sensing, Remote Sensing, Image and Vision Computing, Computers and Electronics in Agriculture, IEEE Transactions on Geoscience and Remote Sensing, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing

Fellowships and Awards

- 2018 Scholarship, Long-term program 'Science at extreme scales: where big data meets large-scale computing', Institute for Pure and Applied Mathematics, University of California, Los Angeles, USA
- 2018 Best paper award: Oehrlein, J., Förster, A., Schunck, D., Dehbi, Y., Roscher, R., Haunert, J. H. (2018): 'Inferring routing preferences of bicyclists from sparse sets of trajectories', Conference on Smart Data and Smart Cities
- 2016 Symposium prize paper award: Roscher, R., Römer, C., Waske, B., Plümer, L. (2015): 'Landcover classification with self-taught learning on archetypal dictionaries'. IEEE International Geoscience and Remote Sensing Symposium
- 2015 Scholarship, Long-term Program 'Statistical inference, learning and models for big data', Fields Institute for Research in Mathematical Sciences, Toronto, Canada
- 2009 Turbo-Preis der Gesellschaft für Geodäsie, Geoinformation und Landmanagement (DVW)