Curriculum Vitae

Personal Information

Name, Surname:	Ričards Marcinkevičs
Date of Birth:	28.12.1995
Address:	Wieslergasse 3, 8049, Zürich, Switzerland
Phone:	+371 29803430
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Nationality:	Latvian

Education

2019-	Ph.D. student, **Department of Computer Science, Institute for Machine Learning, ETH Zürich**, supervised by Prof. Dr. Julia E. Vogt, co-advised by Prof. Dr. Fanny Yang
2017-2019	M.Sc. ETH in Statistics, with distinction, **Department of Mathematics, ETH Zürich**. Master thesis: *"Causal Inference in Time Series for Identifying Molecular Fingerprints during Sleep"*, supervised by Prof. Dr. Joachim M. Buhmann, advised by Đorđe Miladinović
2014-2017	B.Sc. in Data Science and Knowledge Engineering, summa cum laude, **Department of Data Science and Knowledge Engineering, Maastricht University**. Bachelor thesis: *"Minimum Modification of Time Series to Alter Classification Outcomes under the Nearest Neighbour Algorithm"*, supervised by Prof. Dr. Steven Kelk, Prof. Dr. Carlo Galuzzi, and Dr. Berthold Stegemann
2009-2014	**Rīga Secondary School 34**, General Certificate of Secondary Education
2002-2009	**Rīga Secondary School 95**

Publications & Preprints

Marcinkevičs, R., Ozkan, E., Vogt, J.E. (2022) Debiasing Deep Chest X-Ray Classifiers using Intra- and Post-processing Methods. *7th Machine Learning for Healthcare Conference, MLHC 2022.*

Manduchi, L.,† **Marcinkevičs, R.**,† Massi, M.C., Weikert, T., Sauter, A., Gotta, V., Müller, T., Vasella, F., Neidert, M.C., Pfister, M., Stieltjes, B., Vogt, J.E. (2022) A Deep Variational Approach to Clustering Survival Data. *10th International Conference on Learning Representations, ICLR 2022.*

Roig Aparicio, P., **Marcinkevičs, R.**, Reis Wolfertstetter, P., Wellmann, S., Knorr, C., Vogt, J.E. (2021) Learning Medical Risk Scores for Pediatric Appendicitis. *Short paper at 20th IEEE International Conference on Machine Learning and Applications, ICMLA 2021*

Nowak, N., Gaisl, T., Miladinovic, D., **Marcinkevičs, R.**, Osswald, M., Bauer, S., Buhmann, J.M., Zenobi, R., Sinues, P., Brown, S.A., Kohler, M. (2021) Rapid and reversible control of human metabolism by individual sleep states. *Cell Reports.*

Hatteland, A.H.,† **Marcinkevičs, R.**,† Marquis, R., Frick, T., Hubbard, I., Vogt, J.E., Brunschwiler, T., Ryvlin, P. (2021) Exploring Relationships between Cerebral and Peripheral Biosignals with Neural Networks. ***Best paper award*** *at IEEE International Conference on Digital Health, ICDH 2021.*

Marcinkevičs, R.,† Reis Wolfertstetter, P.,† Wellmann, S., Knorr, C., Vogt, J.E. (2021) Using machine learning to predict the diagnosis, management and severity of pediatric appendicitis. *Frontiers in Pediatrics.*

Marcinkevičs, R. and Vogt, J.E. (2021) Interpretable Models for Granger Causality Using Self-explaining Neural Networks. *9th International Conference on Learning Representations*, ICLR 2021.

Marcinkevičs, R. and Vogt, J.E. (2020) Interpretability and Explainability: A Machine Learning Zoo Mini-tour. *arXiv: 2012.01805.*

Daunhawer, I., Sutter, T.M., **Marcinkevičs, R.**, Vogt, J.E. (2020) Self-supervised Disentanglement of Modality-specific and Shared Factors Improves Multimodal Generative Models. *42nd DAGM German Conference on Pattern Recognition, DAGM GCPR 2020.*

Marcinkevičs, R., Kelk, S., Galuzzi, C., Stegemann, B. (2019) Discovery of Important Subsequences in Electrocardiogram Beats Using the Nearest Neighbour Algorithm. *arXiv: 1901.09187.*

Marcinkevičs, R., O'Neill, J., Law, H., Pervolaraki, E., Hogarth, A., Russell, C.R., Stegemann, B., Holden, A.V., Tayebjee, M.H. (2017) Multichannel ECG diagnostics for the diagnosis of arrhythmogenic right ventricular dysplasia. *EP-Europace*.

Workshop Contributions

Klimiene, U.,† **Marcinkevičs, R.**,† Reis Wolfertstetter, P., Ozkan, E., Paschke, A., Niederberger, D., Wellmann, S., Knorr, C., Vogt, J.E. (2022) Multiview Concept Bottleneck Models Applied to Diagnosing Pediatric Appendicitis. *2nd Workshop on Interpretable Machine Learning in Healthcare (IMLH) at ICML*.

Marcinkevičs, R., Ozkan, E., Vogt, J.E. (2022) Debiasing Neural Networks using Differentiable Classification Parity Proxies. *ICLR Workshop on Socially Responsible Machine Learning*.

Reis Wolfertstetter, P., **Marcinkevičs, R.**, Wellmann, S., Knorr, C., Vogt, J.E. (2021) Using Machine Learning to Predict the Diagnosis, Management and Severity of Pediatric Appendicitis. *Kongress für Kinder- und Jugendmedizin (KKJ)*.

Reis Wolfertstetter, P., **Marcinkevičs, R.**, Wellmann, S., Knorr, C., Vogt, J.E. (2021) Using Machine Learning to Predict the Diagnosis, Management and Severity of Pediatric Appendicitis. *Machine Learning for Healthcare 2021 – Clinical Abstract Track*.

Manduchi, L.,† **Marcinkevičs, R.**,† Vogt, J.E. (2021) A Deep Variational Approach to Clustering Survival Data. *AI for Public Health Workshop at ICLR*.

Marcinkevičs, R. and Vogt, J.E. (2020) Interpretable Models for Granger Causality Using Self-explaining Neural Networks. *NeurIPS Workshop on Interpretable Inductive Biases and Physically Structured Learning*.

Marcinkevičs, R., Miladinović, Đ., Vogt, J.E., Buhmann, J.M. (2020) Nonlinear Granger Causality for Identifying Molecular Fingerprints during Sleep. *Swiss Institute of Bioinformatics (SIB) Days*.

Marcinkevičs, R., Stegemann, B., Holden, A.V., Tayebjee, M.H. (2017) Differences in Right and Left Atrial Structure and Electrophysiology in ARVD. *Heart Rythm Congress 2017*.

Aasmul, S., **Marcinkevičs, R.**, Stegemann, B. (2016) Remote Photoplethysmography – Comparing Perfusion Signals at Different Sites of the Body. *Medtronic 17th European Science and Technology Conference*.

Aasmul, S., **Marcinkevičs, R.**, Stegemann, B. (2016) Comparison of Colour and Monochrome Cameras in Remote Photoplethysmographic Imaging. *Medtronic 17th European Science and Technology Conference*.

Talks

Debiasing Neural Networks using Differentiable Classification Parity Proxies (April 2022) *Contributed talk at the ICLR Workshop on Socially Responsible Machine Learning*.

Deep Variational Approaches for Weakly Supervised Clustering with Applications to Survival Data (November 2021) *Invited talk at the Research Seminar of the TU Wien Machine Learning Research Unit*.

Machine Learning Basics for Physicians (November 2021) *Invited talk at the Barmherzige Brüder Regensburg Hospital Journal Club*.

A Deep Variational Approach to Clustering Survival Data (March & May 2021) *Contributed talk at the AI for Public Health Workshop at ICLR and invited talk at the IBM Research Zürich Machine Learning Seminar*.

Interpretable Models for Granger Causality Using Self-explaining Neural Networks (November 2020) *Talk at the ETH Zürich Doctoral Machine Learning Seminar*.

Reviewing

Conferences	NeurIPS 2022; ICML 2022
Journals	iScience (*Cell Press*); International Journal of Computer Vision (*Springer*)
Workshops	Interpretable Machine Learning in Healthcare (*emergency reviewer*; ICML 2022); Workshop on Computational Biology (ICML 2022); Bridging the Gap: From Machine Learning Research to Clinical Practice (*PC member*; NeurIPS 2021)

Work Experience

2019-	Research assistant at the Department of Computer Science, ETH Zürich
2015-2017	Intern at Medtronic Bakken Research Center, Maastricht Developed methods for extracting and processing remote photoplethysmographic signals from videos; analysed multichannel electrocardiograms to perform the selection of channels for the diagnosis of arrhythmogenic right ventricular dysplasia.

Teaching Experience

2021, 2022	TA for Data Science for Medicine (252-0868-00L)
2020, 2021	TA for Advanced Machine Learning (252-0535-00L)
2020	TA for Digital Medicine II (252-0868-00L)

Certificates & Awards

2021 Best paper award at IEEE ICDH 2021
2021 Gero Wesener prize from Deutsche Gesellschaft für Kinderchirurgie (DGKCH)
2017 IELTS: 8.5
2017 Maastricht University Research Based Learning Program (MaRBLe)
2017 KE@Work

Languages

Latvian (*native*), Russian (*native*), English (*professional*), German (*limited working proficiency*)

Programming & Software Skills

Basic	C++, mySQL, GLPK, OpenMP, Open MPI, Adobe Photoshop
Intermediate	C#, LaTeX, OpenCV, TensorFlow
Advanced	python, PyTorch, Java, R, MATLAB, MS Office

Interests & Activities

Recreational Mathematics, History, Literature, Philosophy, Angling, Swimming