

# Curriculum Vitae

## Personal Information

---

NAME, SURNAME: Ričards Marcinkevičs  
DATE OF BIRTH: 28.12.1995  
ADDRESS: Wieslergasse 3, 8049, Zürich, Switzerland  
PHONE: +371 29803430  
EMAIL: [ricards.marcinkevics@inf.ethz.ch](mailto:ricards.marcinkevics@inf.ethz.ch)  
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. *7<sup>th</sup> Machine Learning for Healthcare Conference, MLHC 2022*.
- Manduchi, L.,<sup>†</sup> **Marcinkevičs, R.**,<sup>†</sup> 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](#). *10<sup>th</sup> 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 20<sup>th</sup> 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.,<sup>†</sup> **Marcinkevičs, R.**,<sup>†</sup> Marquis, R., Frick, T., Hubbard, I., Vogt, J.E., Brunswiler, 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.**,<sup>†</sup> Reis Wolfertstetter, P.,<sup>†</sup> 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](#). *9<sup>th</sup> 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](#). *42<sup>nd</sup> 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.,<sup>†</sup> **Marcinkevičs, R.**,<sup>†</sup> 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](#). *2<sup>nd</sup> Workshop on Interpretable Machine Learning in Healthcare (IMLH) at ICML 2022*.

**Marcinkevičs, R.**, Ozkan, E., Vogt, J.E. (2022) [Debiasing Neural Networks using Differentiable Classification Parity Proxies](#). *ICLR 2022 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 Conference 2021 – Clinical Abstract Track*.

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

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

**Marcinkevičs, R.**, Miladinović, D., 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 17<sup>th</sup> European Science and Technology Conference*.

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

## Talks

---

[Debiasing Neural Networks using Differentiable Classification Parity Proxies](#) (April 2022) *Contributed talk at the ICLR 2022 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 2021 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 ( <i>Cell Press</i> ); International Journal of Computer Vision ( <i>Springer</i> )
Workshops	Interpretable Machine Learning in Healthcare ( <i>emergency reviewer</i> ; ICML 2022); Workshop on Computational Biology (ICML 2022); Bridging the Gap: From Machine Learning Research to Clinical Practice ( <i>PC member</i> ; 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 <a href="#">Data Science for Medicine</a> (252-0868-00L)
2020, 2021	TA for <a href="#">Advanced Machine Learning</a> (252-0535-00L)
2020	TA for <a href="#">Digital Medicine II</a> (252-0868-00L)

## Certificates & Awards

---

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

## 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#, L <sup>A</sup> T <sub>E</sub> X, OpenCV, TensorFlow
Advanced	python, PyTorch, Java, R, MATLAB, MS Office

## Interests & Activities

---

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