

Laura Rieger

About

Name Laura Rieger
Address Plantevej 25, 3tv, 2870 Dyssegaard, Denmark
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Nationality German

Education

- 2019 **Research Stay** Focus: Stabilizing neural networks by regularizing explanations
University of California, Berkeley
- 2017 – 2020 **Ph.D.** "Explainability of uncertainty for neural networks"
Technical University of Denmark (DTU)
Goal: Better understanding of safety-critical decisions made with deep learning
- 2015 - 2017 **M.Sc. Computer Science** Dual degree program of *TU Berlin* and *KAIST* in South Korea
GPA: 1.1 (German scale, 1.0 being the highest, 4.0 the lowest passing grade)
Master thesis: "Separable explanations of neural network decisions"
- 2011 - 2014 **B.Sc. Computational Engineering Science** at *TU Berlin*
Bachelor thesis: "Automated creation of change requests based on patterns in usage data"
- 2007 - 2011 **High School Diploma** (Abitur) at *Waldgymnasium, Berlin*
- 2008 - 2009 **Exchange year** at *Central High School, Independence, OR, USA*

Publications

- 2018 **Laura Rieger**, Pattarawat Chormai, Grégoire Montavon, Lars Kai Hansen, and Klaus-Robert Müller. Structuring Neural Networks for More Explainable Predictions. In *Explainable and Interpretable Models in Computer Vision and Machine Learning*, pages 115–131. Springer, 2018.
- 2017 **Laura Rieger**. Separable explanations of neural network decisions. In *Proceedings Workshop on Interpreting, Explaining and Visualizing Deep Learning (at NIPS)*, 2017.
- 2017 Matthieu de La Roche Saint Andre, **Laura Rieger**, Morten Hannemose, and Junmo Kim. Tunnel Effect in CNNs: Image Reconstruction From Max Switch Locations. *IEEE Signal Processing Letters*, 24(3):254–258, 2017.
- 2019 Lars Kai Hansen and Laura Rieger. Interpretability in Intelligent Systems—A New Concept? In *Explainable AI: Interpreting, Explaining and Visualizing Deep Learning*, pages 41–49. Springer, 2019.

Dissemination

- 2018 Tutorial "Opening the black box - how to interpret machine learning functions and their decisions" at IEEE International Workshop on Machine Learning for Signal Processing 2018
Reviewer for NIPS 2018 and ICML 2019

Teaching experience

- 2018 Teaching assistant - Introduction to Intelligent Systems (DTU)
2018 Teaching assistant - Introduction to Machine Learning and Data Mining (DTU)
2016 –2017 Teaching assistant - Machine Learning I & II (TU Berlin)

Supervision of one bachelor thesis and two master theses

Experience

Aug-Sep 2018 **Machine Learning Summer School Madrid** Statistical machine learning and inference
2016 - 2017 **Technical University Berlin** Student assistant in Machine Learning Group
2016 **SAP** Healthcare Machine Learning Developer
2015 - 2016 **Lab for Artificial Intelligence & Probabilistic Reasoning at KAIST** Research in Deep Learning
2011 - 2015 **InMediasP GmbH** Developer for product data management systems

Skills

Programming Python, C++, Java, Matlab
Languages German (native), English (business fluent), Danish (fluent), Latin (Latinum)

Achievements and scholarships (selected)

2018 **Best Pitch at DTU's PhD Bazaar 2018** Explainable AI for specific domains
2017 **DTU Scholarship** Scholarship for the Ph.D. studies from the DTU Compute (2017-2020)
2016 **Deutschland-Stipendium** German scholarship for high-achieving and committed students