André Artelt

Personal Data

Place and year of birth:	Bielefeld, Germany — 1994
Email:	aartelt@techfak.uni-bielefeld.de
Github:	https://github.com/andreArtelt
Languages:	German (native), English (fluent)

Working Experience

2019 - Present	*Researcher* at Bielefeld University, Germany Machine Learning Group at Faculty of Technology.
2014 - 2019	*Teaching assistant* at Bielefeld University, Germany Teaching assistant (TA) for different computer science courses: Introduction to Machine Learning, Applied Optimization, Algorithms in Computer Science, Algorithms and Data structures, Introduction to OOP in Java.
2013 - 2019	*Working student in the software development department* of Schüco Digital GmbH (part of Schüco International KG), Bielefeld, Germany Software development and information retrieval. Used technology: C#, .NET, C++, (no)SQL, JavaScript und Python.

Affiliations

2022 - Present	*Visiting Researcher* at University of Cyprus, Cyprus Department of Electrical and Computer Engineering at KIOS Research and Innovation Center of Excellence.

Education

2019 - Present	*PhD student / Machine Learning*, Bielefeld University
2017 - 2019	*Intelligent Systems / Master of Science*, Bielefeld University
2013 - 2017	*Cognitve Informatics / Bachelor of Science*, Bielefeld University

Awards

Winter term 2018/19	*Outstanding TA award* (Course: Introduction to Machine Learning)
Winter term 2017/18	*Outstanding TA award* (Course: Introduction to Machine Learning)
Summer term 2015	*1. Price group project* (Project seminar on software engineering)

Publication Record

- h-Index: 9

- Number of citations: 291

- Number of publications: 48

Date: 24.11.2023 (h-Index and number of citations according to Google Scholar)

Most Important Publications

XAI @ IJCAI-2023	*"Explain it in the Same Way!"* – *Model-Agnostic Group Fairness of Counterfactual Explanations* **A. Artelt**, B. Hammer
NEUCOM-2023	*"I do not Know! But Why?"* – *Local Model-Agnostic Example-based Explanations of Reject* **A. Artelt**, R. Visser, B. Hammer
XAI @ IJCAI-2022	*One Explanation to Rule them All — Ensemble Consistent Explanations* **A. Artelt**, S. Vrachimis, D. Eliades, M. Polycarpou, B. Hammer
NEPL-2022	*Contrasting Explanations for Understanding and Regularizing Model Adaptations* **A. Artelt**, F. Hinder, V. Vaquet, R. Feldhans, B. Hammer
SSCI-2021	*Evaluating Robustness of Counterfactual Explanations* **A. Artelt**, V. Vaquet, R. Velioglu, F. Hinder, J. Brinkrolf, M. Schilling, B. Hammer

RESEARCH VISITS

OCTOBER - DECEMBER 2023	*KIOS - Research and Innovation Center of Excellence* *University of Cyprus* Host: Marios Polycarpou
NOVEMBER 2022	*KIOS - Research and Innovation Center of Excellence* *University of Cyprus* Host: Marios Polycarpou

REVIEWER ACTIVITIES

Numerous reviews for several conferences and journals:

- CONFERENCES: *ICML, ICLR, NeurIPS, ECML, ESANN, IJCNN, ICANN, ICNCIT*

- JOURNALS: *ACM Computing Surveys, Transactions on Pattern Analysis and Machine Intelligence, IEEE Transactions on Neural Networks and Learning Systems, Frontiers in Energy Research (Sustainable Energy Systems and Policies), Journal of Decision Systems*

COMPLETE LIST OF PUBLICATIONS

Conference Puplications

SSCI-2023	*Unsupervised Unlearning of Concept Drift with Autoencoders* **A. Artelt**, K. Malialis, C. Panayiotou, M. Polycarpou, B. Hammer
xAI 2023	*For better or worse: The impact of counterfactual explanations' directionality on user behavior in XAI* U. Kuhl, **A. Artelt**, B. Hammer
MediaPsych-2023	*Can You Explain Why You Did Not Recommend Something Else?* *An Experimental Study on the Effects of Contrastive Explanations and Person-Likeness on Trust in and Understanding of Algorithms* A. C. Horstmann, J. Szczuka, L. Mavrina, **A. Artelt**, C. Strathmann, N. Szymczyk, et al.
XAI @ IJCAI-2023	*"Explain it in the Same Way!" –* *Model-Agnostic Group Fairness of Counterfactual Explanations* **A. Artelt**, B. Hammer
IWANN-2023	*Adversarial Attacks on Leakage Detectors in Water Distribution Networks* P. Stahlhofen, **A. Artelt**, L. Hermes, B. Hammer
ICEIS-2023	*"How to make them stay?" – Diverse Counterfactual Explanations of Employee Attrition* **A. Artelt**, A. Gregoriades
IDA-2023	*Spatial Graph Convolution Neural Networks for Water Distribution Systems* I. Ashraf, L. Hermes, **A. Artelt**, B. Hammer
ICA-2023	*Enhancing the Understanding of Algorithms With Contrastive Explanations:* *An Experimental Study on the Effects of Explanations and* *Person-Likeness on Trust in and Understanding of Algorithms* J. Szczuka, A. C. Horstmann, L. Mavrina, **A. Artelt**, C. Strathmann, et al.
ICPRAM-2023	*"Why Here and Not There?" –* *Diverse Contrasting Explanations of Dimensionality Reduction* **A. Artelt**, A. Schulz, B. Hammer
SSCI-2022	*"Even if ..." – Diverse Semifactual Explanations of Reject* **A. Artelt**, B. Hammer
IDEAL-2022	*Explainable Artificial Intelligence for Improved Modeling of Processes* R. Velioglu, J.P. Göpfert, **A. Artelt**, B. Hammer
NCTA-2022	*Explaining Reject Options of Learning Vector Quantization Classifiers* **A. Artelt**, J. Brinkrolf, R. Visser, B. Hammer
ESANN-2022	*Model Agnostic Local Explanations of Reject* **A. Artelt**, J. Brinkrolf, R. Visser, B. Hammer
ESANN-2022	*Improving Zorro Explanations for Sparse Observations with Dense Proxy Data* A. Mazur, **A. Artelt**, B. Hammer
ESANN-2022	*Contrasting Explanation of Concept Drift* F. Hinder, **A. Artelt**, V. Vaquet, B. Hammer
ICANN-2022	*Taking care of our drinking water:* *Dealing with Sensor Faults in Water Distribution Networks* V. Vaquet, **A. Artelt**, J. Brinkrolf, B. Hammer
ICANN-2022	*SAM-kNN Regressor for Online Learning in Water Distribution Networks* **J. Jakob***, **A. Artelt***, M. Hasenjäger, B. Hammer
XAI @ IJCAI-2022	*One Explanation to Rule them All — Ensemble Consistent Explanations* **A. Artelt**, S. Vrachimis, D. Eliades, M. Polycarpou, B. Hammer
IJCNN-2022	*Localization of Concept Drift: Identifying the Drifting Datapoints* F. Hinder, V. Vaquet, J. Brinkrolf, **A. Artelt**, B. Hammer
FAccT-2022	*Keep your friends close and your counterfactuals closer:* *Improved learning from closest rather than plausible counterfactual explanations in an abstract setting* U. Kuhl, **A. Artelt**, B. Hammer
DGPs-2022	*Let me explain my algorithms: An empirical investigation about the effects of explanations and personhood on trust and understanding* J. Szczuka, N. Szymczyk, C. Strathmann, **A. Artelt**, L. Varonina, N. Krämer
SSCI-2021	*Evaluating Robustness of Counterfactual Explanations* **A. Artelt**, V. Vaquet, R. Velioglu, F. Hinder, J. Brinkrolf, M. Schilling, B. Hammer
IWANN-2021	*Contrastive Explanations for Explaining Model Adaptations* **A. Artelt**, F. Hinder, V. Vaquet, R. Feldhans, B. Hammer
IJCNN-2021	*Efficient computation of contrastive explanations* **A. Artelt**, B. Hammer

IUI-2020	*Improving and Evaluating Conversational User Interfaces for Children*
	N. Krämer, J. Szczuka, A. Rossnagel, C. Geminn, S. Kopp, B. Hammer,
	L. Varonina, **A. Artelt**, A. Manzeschke, C. Weber
ICANN-2020	*Convex density constraints for computing plausible counterfactual explanations*
	A. Artelt, B. Hammer
ICML-2020	*Towards non-parametric drift detection via*
	Dynamic Adapting Window Independence Drift Detection (DAWIDD)
	F.Hinder, **A. Artelt**, B. Hammer
ESANN-2020	*Efficient computation of counterfactual explanations of LVQ models*
	A. Artelt, B. Hammer
IDA-2020	*Adversarial attack hidden in plain sight*
	J.P. Göpfert, **A. Artelt**, H. Wersing, B. Hammer

* Shared first authorship.

Journal Publications

NEUCOM-2023	*"I do not Know! But Why?" – Local Model-Agnostic Example-based Explanations of Reject*
	A. Artelt, R. Visser, B. Hammer
UAAI-2023	*Interpretable SAM-kNN Regressor for Online Learning on High-dimensional Data*
	J. Jakob, **A. Artelt**, M. Hasenjäger, B. Hammer
FCOMP-2023	*Let's Go to the Alien Zoo: Introducing an Experimental Framework*
	to Study Usability of Counterfactual Explanations for Machine Learning
	U.Kuhl, **A. Artelt**, B. Hammer
NEPL-2022	*Contrasting Explanations for Understanding and Regularizing Model Adaptations*
	A. Artelt, F. Hinder, V. Vaquet, R. Feldhans, B. Hammer
NEUCOM-2021	*Efficient computation of counterfactual explanations*
	and counterfactual metrics of prototype-based classifiers
	A. Artelt, B. Hammer
DuD-9-2020	*Kinder als Nutzende smarter Sprachassistenten*
	Spezieller Gestaltungsbedarf zum Schutz von Kindern
	C. Geminn, J. Szczuka, C. Weber, **A. Artelt**, L. Varonina

Book chapters

2023	*Daten aus informatischer Sicht* in Geminn & Johannes, "Europäisches Datenrecht"[1]
	A. Artelt

[1] English version available as: *Data in Computer Science* in Geminn & Johannes, "EU Data Law" (2023), A. Artelt

Other Publications

2023	*Kann sich künstliche Intelligenz selbst erklären?* *Wie Erklärungen aus rechtswissenschaftlicher und ethischer Sicht gestaltet sein sollten und was Psychologie und Informatik dazu beitragen können* A. Horstmann, N. Krämer, C. Geminn, T. Bile, C. Weber, A. Manzeschke, L. Mavrina, S. Kopp, **A. Artelt**, B. Hammer
2023	*Gesundheits-Apps & Digitale Gesundheitsanwendungen (DiGAs) aus ethischer, rechtlicher, psychologischer und informatischer Perspektive* **A. Artelt**, C. Geminn, et al.
2022	*Faire Algorithmen und die Fairness von Erklärungen:* *Informatische, rechtliche und ethische Perspektiven* **A. Artelt**, C. Geminn, et al.
arXiv-2022	*Precise Change Point Detection using Spectral Drift Detection* F. Hinder, **A. Artelt**, V. Vaquet, B. Hammer
arXiv-2021	*Convex optimization for actionable & plausible counterfactual explanations* **A. Artelt**, B. Hammer
2021	*Können Kinder aufgeklärte Nutzer* innen von Sprachassistenten sein?* *Rechtliche, psychologische, ethische und informatische Perspektiven* J. Szczuka, **A. Artelt**, C. Geminn, et al.
arXiv-2019	*A probability theoretic approach to drifting data in continuous time domains* F. Hinder, **A. Artelt**, B. Hammer
2019	*KI-basierte Sprachassistenten im Alltag:* *Forschungsbedarf aus informatischer, psychologischer, ethischer und rechtlicher Sicht* N. Krämer, **A. Artelt**, C. Geminn, et.al.
arXiv-2019	*On the computation of counterfactual explanations – A survey* **A. Artelt**, B. Hammer
GitHub-2019	*CEML - Counterfactuals for Explaining Machine Learning models – A Python toolbox* **A. Artelt**
2019	*Lecture Notes on Applied Optimization* B. Paaßen, **A. Artelt**, B. Hammer
2019	*Introduction to Machine Learning – Supplementary notes* **A. Artelt**

(Invited) Talks & Presentations

CITIZENSCIENCE-2023	*Vertrauenswürdige KI* (TALK) **A. Artelt**
HERRENHAUSENCONF.-2022	*Explainable AI for intelligent machines in everyday life* (POSTER) B. Hammer, **A. Artelt**, et al.
HNI-SYMP.-2022	*"What if ..." - Counterfactuals for Explaining Machine Learning Models* (TALK) **A. Artelt**
CITIZENSCIENCE-2020	*Maschinelles Lernen (ML)* (TALK) **A. Artelt**
EEML-2020	*On Counterfactual Explanations of ML Models* (TALK) **A. Artelt**

Teaching Experience

Supervision

- Number of Bachelor theses: 8

- Number of Master projects: 2

- Number of Master theses: 1

Teaching Assistant

Winter 2014/15	*Algorithms and Data structures & Functional Programming in Haskell*[1]
Summer 2015	*Object Orientated Progamming in Java*[1]
Winter 2015/16	*Algorithms and Data structures & Functional Programming in Haskell*[1]
Summer 2016	*Foundations of Artificial Cognition*[1]
Winter 2016/17	*Introduction to Machine Learning*
Summer 2017	*Foundations of Artificial Cognition*[1]
Winter 2017/18	*Introduction to Machine Learning*
Summer 2018	*Algorithms in Computer Science*[1]
Winter 2018/19	*Introduction to Machine Learning*; *Applied Optimization*

[1] Course was given in German.

Organizer of Exercises

Summer 2019	*Algorithms in Computer Science*
Winter 2019/20	*Introduction to Machine Learning*
Summer 2020	*Algorithms in Computer Science*
Winter 2020/21	*Applied Optimization*
Summer 2021	*Algorithms in Computer Science*
Winter 2021/22	*Applied Optimization*
Summer 2023	*Algorithms in Computer Science*