

Curriculum vitae with track record

Personal information

First name, Surname:	Ana Ozaki
Researcher unique identifier(s) (ORCID, ResearcherID, etc.):	https://dblp.uni-trier.de/pid/149/1363.html https://orcid.org/0000-0002-3889-6207
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Education

Year	Faculty/department - University/institution - Country
2016	Ph.D. in Computer Science - University of Liverpool - United Kingdom
2012	Master in Informatics - University of Brasilia - Brazil
2011	Bachelor in Computer Science - University of Brasilia - Brazil

Positions - current and previous

Year	Job title - Employer - Country
2020-	Associate Professor - University of Bergen - Norway
2018-2020	Assistant Professor - Free University of Bozen-Bolzano - Italy
2017-2018	Postdoc - Technical University of Dresden - Germany

Project management experience

Year	Project owner - Project - Role - Funder
2019-2021	Free University of Bozen-Bolzano - Principal Investigator - " Apprendimento PAC di Ontologie in Logica Descrittiva " (period 01.08.2019 to 01.03.2021, budget: 52.000,00 euros)

Supervision of students and postdocs

(Total number of students and postdocs)

Master's students	Ph.D. students	Postdoc	University/institution - Country
1	0	0	Technical University of Dresden - Germany
1	1	1	Free University of Bozen-Bolzano - Italy
3 (on going)	1 (on going)	1	University of Bergen - Norway

Other relevant recent professional experiences

Year	Description - Role
2020	Member of the editorial board of the Journal of Machine Learning Research
2020	Member of the editorial board of the Journal of Web Semantics
2020	Member of the Association for the Advancement of Artificial Intelligence (AAAI)
2020	Program Committee-Chair (PC-chair) of the 27th International Symposium on Temporal Representation and Reasoning
2020	Senior PC Member for the Twenty-Ninth International Joint Conference on Artificial Intelligence (IJCAI)
2020	PC Member for the Thirty-Fourth AAAI Conference on Artificial Intelligence
2020	PC Member for the Seventeenth International Conference on Principles of Knowledge Representation and Reasoning
2020	PC Member for the Twenty-Forth European Conference on Artificial Intelligence
2020	PC Member for the Seventeenth European Semantic Web Conference
2020	PC Member for Thirty-Third International Workshop on Description Logics
2020	ICT Research School Evaluation Committee Member
2020	Examiner of PhD defense (Ricardo Guimarães)
2019	Description Logic Steering Committee Member
2019	PC Member for the Twenty-Eighth International Joint Conference on Artificial Intelligence
2019	Participation in the organization of the Bolzano Rules and Artificial Intelligence Summit
2019	PC Member for the Thirty-Third AAAI Conference on Artificial Intelligence
2019	PC Member for Thirty-Second International Workshop on Description Logics
2018	(Collaborator) " Modelos y metodos basados en grafos para la computacion en gran scala " (period: 01.01.2018 to 31.12.2020, budget: 95.348,00 euros).
2018	PC Member for the Twenty-Seventh International Joint Conference on Artificial Intelligence
2018	PC Member for the Thirty-Second AAAI Conference on Artificial Intelligence

Publication statistics

~265 citations on [google scholar](#)

Publication Record from 2014 to 2020:

- 42 journal, conference, and workshop publications according to [DBLP](#).

Awards & Recognitions:

- Senior PC member of the International Joint Conference on Artificial Intelligence, 2020.
 - PC members of this conference are promoted to senior PC members by nomination, if it is considered that they have published enough papers in highly ranked AI conferences.
- Selected [Momentum delegate](#), 2020.
 - This is a program in which each department, based on the CVs of the postdocs and associate professors, chooses one or two employees to receive training relevant for applying for grants.
- Elected [Description Logic Steering Committee Member](#), 2019.
 - The Description Logic Steering Committee is responsible for carrying out policy determined at the DL business meetings and otherwise assisting the organizers of the DL workshops.
- [Distinguished IJCAI-ECAI PC Member](#), 2018.
 - This is a recognition for the quality of reviews.
- [Distinguished Paper at the International Semantic Web Conference](#), 2017.

- I co-authored a paper that was among the best papers at this conference.
- [E.M. Gold Award at Algorithmic Learning Theory](#), 2015.
 - This is an award in learning theory given to best student paper of the algorithmic learning theory conference.
- [Trusted Reviewer](#) of the Editorial Board of the Journal of Machine Learning Research (JMLR)
 - World class experts in machine learning are members of the JMLR editorial board.

News:

IJCAI 2020 [NORA News](#)

IJCAI 2015 [Liverpool Postcard](#)

Five Selected Publications (with acceptance rate for conference publications):

- Cosimo Persia, Ana Ozaki: On the Learnability of Possibilistic Theories . IJCAI (international peer-reviewed conference) 2020. **Acceptance rate ~12%**
 - We studied a way of representing facts and rules where there is a distinction between when they are taken as ground truth (e.g., there is life on earth) and when they are regarded as beliefs (e.g., there is life in other planets). Then, we proposed an approach to learn such kind of representation, which captures inconsistencies and partial knowledge.
- Boris Konev, Carsten Lutz, Ana Ozaki, Frank Wolter: Exact Learning of Lightweight Description Logic Ontologies. In [JMLR \(international peer-reviewed journal\)](#) 2018.
 - We investigated the problem of exactly learning ontologies formulated in different ontology languages. In Section 4, I provided an algorithm for learning ontologies in the ontology language DL-LiteHorn and proved that the algorithm runs in polynomial time.
- Ana Ozaki, Cosimo Persia, Andrea Mazzullo: [Learning Query Inseparable ELH Ontologies](#). In AAAI (international peer-reviewed conference) 2020. **Acceptance rate ~21%**
 - We investigated the problem of learning query inseparable ontologies. Query inseparability is a notion that is weaker than logical equivalence. We proved complexity results for the problem of exactly learning query inseparable ontologies formulated in the EL ontology language.
- Camille Bourgaux, Ana Ozaki, Rafael Peñaloza, Livia Predoiu: Provenance for the Description Logic ELHr. IJCAI (international peer-reviewed conference) 2020. **Acceptance rate ~12%**
 - We investigated a strategy for detecting which parts of a collection of facts and rules are relevant for the result of a query posed to this collection. These relevant parts are then represented as a polynomial that indicates the origin (i.e., provenance) of the query result. This can be useful to determine, for instance, the level of trust of query results.
- Montserrat Hermo, Ana Ozaki: Exact Learning: On the Boundary between Horn and CNF. In ACM Transactions on Computation Theory (international peer-reviewed journal) 2020.
 - We investigated the complexity of learning multivalued dependencies. Our main result was a non-trivial adaptation of Angluin's algorithm for learning Horn theories.

Recent Talks:

- Learning Description Logic Ontologies. [NORA AI](#), 2020.
 - I was invited to give a talk at the Norwegian Artificial Intelligence Research Consortium.

- Outline: Description logic ontologies have been used to represent the relevant knowledge of a domain of interest in a formal and machine-processable format. Such knowledge can be applied to constrain the space of hypotheses in learning tasks, to integrate data coming from multiple sources, to support query answering, among others. Understanding how to describe domain knowledge in a concise and interpretable way is a fundamental challenge in artificial intelligence. I provided some examples of expressions and see which ones we can and cannot represent within classical description logic.
- On the Complexity of Learning Description Logic Ontologies. [Reasoning Web Summer School](#), 2020.
 - I was invited to be one of the lecturers of the 16th edition of the RW summer school, held online this year. It had more than 100 participants.
- Learning Description Logic Ontologies. [Laboratoire Bordelais de Recherche en Informatique](#), 2020.
 - I was invited to give a talk at the [Laboratoire Bordelais de Recherche en Informatique](#). This is a research unit associated with the CNRS (UMR 5800), the University of Bordeaux and the Bordeaux INP.
- Learning Ontologies: A Question-Answer Game. [What can FCA do for Artificial Intelligence?](#), 2019.
 - I was the keynote of the 7th edition of the FCA workshop, co-located with IJCAI.
 - Outline: Ontologies have been applied to integrate and abstract information from multiple data sources; to describe knowledge in various domains, in particular, those related life sciences; among others. One can see the problem of building an ontology as a learning problem. We investigated polynomial learnability for different ontology languages within this learning model and showed non-polynomial learnability for ontologies formulated in the ontology language EL, and polynomial learnability for fragments of this language. We also presented an implementation of an (exponential) algorithm for learning EL ontologies.
- Learning Ontologies: A Question-Answer Game. [Logic and Learning Dagstuhl Seminar](#), 2019.
 - [Schloss Dagstuhl](#) is one of the world's premier meeting centers for informatics research.
- [Knowledge Graphs: Facts and Figures](#). Seminar om forskning, innovasjon og teknologi, 2019.
 - I was invited to give a talk at Media City Bergen.
 - Outline: I presented the main reasoning tasks and how to enhance reasoning using common types of meta-knowledge present in knowledge graphs; in particular, temporal validity and provenance. Then I presented important challenges for the maintenance of knowledge graphs, and approaches to deal with them.