RICARDO FERREIRA GUIMARÃES

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EXPERIENCE

Postdoctoral Research Fellow *(Full-time fixed-term)* — Dec 2020 – Present
Department of Informatics, University of Bergen — *Bergen, Norway*

- Published excellent research on AI in venues such as AAAI 2023, NLDL 2023, and JAIR.

- Presented findings at international workshops to communicate impact and relevance.

- Developed and delivered two successful courses, creating comprehensive materials that engaged students.

- Co-supervised the progress of 2 PhD students and 2 master's students, providing expert mentorship.

- Co-organised an international research school on Artificial Intelligence.

Research Assistant *(Full-time fixed-term)* — Mar 2020 – Nov 2020
Faculty of Science and Technology, Free University of Bozen-Bolzano — *Bozen-Bolzano, Italy*

- Coordinated with colleagues from around the world to present research findings at AAAI 2021.

- Devised an algorithm for ontology mining that potentially reduces their concept nesting by orders of magnitude.

Academic Visitor *(Full-time internship)* — Apr 2018 – Jan 2019
Information Management Group, University of Manchester — *Manchester, UK*

- Published results of the collaboration in an international workshop on Ontology Modularity (WOMoCoE 2018).

- Funded by São Paulo Research Agency (FAPESP).

System Administrator *(Part-time internship)* — Mar 2013 – Feb 2015
Rede Linux, Institute of Mathematics and Statistics, University of São Paulo — *São Paulo, Brazil*

- Maintained and developed the computer network that supports the institute's undergraduate students.

- Provided user support.

EDUCATION

PhD in Computer Science *(Full-time)* — Mar 2015 – Jan 2020
Institute of Mathematics and Statistics, University of São Paulo — *São Paulo, Brazil*
Thesis: Modularity in Belief Change of Description Logic Bases
Relevant Coursework: Artificial Intelligence Lab, Reasoning About Knowledge, Machine Learning

BSc in Computer Science *(Honourable Mention, Full-time)* — Feb 2011 – Dec 2014
Institute of Mathematics and Statistics, University of São Paulo — *São Paulo, Brazil*
Bachelor Project: Extensions to the AML Ontology Aligner
Relevant Coursework: Algorithm Analysis, Database Systems, Extreme Programming Lab, Numerical Linear Algebra

SKILLS

Technical: Python, Java, C, SQL, GNU/Linux, Git, Knowledge Graphs, Ontologies, OWL, RDF, SPARQL, Protégé, LaTeX, Data Science (IBM Specialization), Extreme Programming (Agile), Docker (basic)

Soft: Problem-solving, Algorithm Design, Time Management, Scientific Method/Research, Academic Writing

Languages: English (proficient), Norwegian (basic), Portuguese (native)

CODE PROJECTS

OWL2DL-Change: Modularisation: Implemented of Belief Change algorithms for OWL 2 DL ontologies using OWL API (Java). The code is instrumented with JMH for benchmarking.

OWL2DL-CCC: Created a tool that generates test cases for non-standard reasoning tasks (e.g. repair). It uses OWL API to handle the source ontologies and JSON to specify the types of test cases generated.

SELECTED PUBLICATIONS

- Guimarães et al. "Mining EL Bases with Adaptable Role Depth". In: JAIR, 2023

- Guimarães, Ozaki, and Ribeiro "Finite Based Contraction and Expansion via Models". In: AAAI, 2023

- Persia and Guimarães "RIDDLE: Rule Induction with Deep Learning". In: NLDL, 2023

- Guimarães and Ozaki "Reasoning in Knowledge Graphs (Invited Paper)". In: AIB, 2022

- Jøsang, Guimarães, and Ozaki "On the Effectiveness of Knowledge Graph Embeddings: a Rule Mining Approach". In: KR4HI, 2022

- Matos et al. "Pseudo-contractions as Gentle Repairs". In: Description Logic, Theory Combination, and All That, 2019

TEACHING

INF207-22H: Social Networks Theory (Bachelor/Master level)
INF367-21H: Selected Topics in Artificial Intelligence: Ontologies and Knowledge Graphs (Master level)

NOTABLE ROLES

Co-organiser: AIB 2022 (research school)

Publicity co-chair: DL 2023 (international workshop)

PC member: KR 2023, DL 2023, AAAI 2023, DL2022, KR2022

Reviewer: Information and Computation Journal, Artificial Intelligence Journal (AIJ), Neural Networks, Journal of Automated Reasoning

INVITED TALKS

- Belief Change with Models as Input: Adapting Expansion and Contraction. IRL 2022

- Reasoning in Knowledge Graphs. AIB 2022

- Learning and Reasoning with Knowledge Graphs and Ontologies. CEDAS Networking Event 2022

OTHER INTERESTS

- Science and Technology

- Free and Open-Source Software (FOSS)

- Languages

- Board Games