

Gil Rocha

Curriculum Vitae

Postdoctoral Researcher
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(Last update: April 2024)

Education

- 2011–2016 **Integrated Master in Informatics and Computing Engineering (MIEIC)**
(B.Sc. and M.Sc.) *Faculty of Engineering of the University of Porto (FEUP), Porto, Portugal*
M.Sc. Thesis: ArgMine: Argumentation Mining from Text,
Supervisors: Prof. Dr. Henrique Lopes Cardoso (Ph.D.) and Eng. Jorge Teixeira (M.Sc.)
- 2015–2016 **Erasmus+ Programme, 1st semester 2015/2016**
Barcelona School of Informatics, Technical University of Catalonia and
Faculty of Mathematics, University of Barcelona, Spain
- 2017–2023 **Doctoral Program in Informatics Engineering (ProDEI)**
(Ph.D.) *Faculty of Engineering of the University of Porto (FEUP), Porto, Portugal*
Ph.D. Thesis: Argumentation Mining from Text Using Semantic Approaches,
Supervisor: Prof. Dr. Henrique Lopes Cardoso (Ph.D.)

Work Experience

- 10/2016–11/2023 **Research Assistant** *Artificial Intelligence and Computer Science Laboratory (LIACC), FEUP, Portugal*
LIACC is recognized as one the leading Portuguese research institutes on Artificial Intelligence. I worked in the following research areas: Machine Learning, Natural Language Processing, Argumentation Mining, Computational Semantics, and Cross-Language Learning. During this period, I had the opportunity to participate in several research projects.
- 04/2018–06/2018 **Visiting Researcher** *Ubiquitous Knowledge Processing Laboratory (UKP) Department of Computer Science, Technische Universität Darmstadt, Germany*
Research visit partially supported by an Erasmus+ (Work) grant. During this period, I collaborated with the UKP lab on the research project entitled “Cross-Lingual Argumentative Relations Identification”, under the supervision of Dr. Christian Stab and Prof. Dr. Iryna Gurevych.
- 01/2024–Current **Postdoctoral researcher** *Human Language Technologies Laboratory (HLT) Instituto de Engenharia de Sistemas e Computadores: Investigação e Desenvolvimento (INESC-ID), Lisbon, Portugal*
HLT research laboratory has been, for over two decades, a key player in many areas of Speech Processing, Natural Language Processing, and Computational Linguistics. INESC-ID was identified by FCT as one of the top 10 Portuguese research units attracting projects and funding from the European Union. During this period, I participate as a postdoctoral researcher in the research project “Center for Responsible AI”, under the supervision of Prof. Dr. Bruno Martins.

Academic & Research Experience

Research Projects

- 11/2014–09/2015 **ArgMine: Argumentation Mining from Text**, ARTIFICIAL INTELLIGENCE AND COMPUTER SCIENCE LABORATORY (LIACC/FEUP) & SAPO LABS, Porto, Portugal, .
- 07/2017–12/2019 **ARGH: Argumentation Hub**, MEDIA INNOVATION LABS (MIL), University of Porto, Portugal.
- 05/2018–10/2019 **IA.SAE: Artificial Intelligence in Economic and Food Safety**, National Digital Skills Initiatives (INCoDe.2030), LIACC/FEUP, PORTUGUESE ECONOMIC AND FOOD SAFETY AUTHORITY (ASAE), .
- 10/2018–07/2022 **DARGMINTS: Discourse Analysis and Argumentation Mining from Text Sources**, FCT POCI-01-0145-FEDER-031460, LIACC/FEUP, FLUP, INESC-ID LISBOA, .
- 01/2024–Current **Center for Responsible AI**, RRP C645008882-00000055, INESC-ID LISBOA,
Led by Unbabel, this project includes ten startups (including two unicorns), eight research centers, a law firm, and also five industry leaders in Life Sciences, Tourism and Retail.

Teaching

- 03/2015–06/2015 **Supervisor of Artificial Intelligence undergraduate course**, FACULTY OF ENGINEERING OF THE UNIVERSITY OF PORTO (FEUP), Portugal.
- 09/2019–02/2020 **Invited Assistant Lecturer - Integrated Master in Informatics and Computing Engineering (MIEIC)**, DEPARTMENT OF INFORMATICS ENGINEERING (DEI), FACULTY OF ENGINEERING OF THE UNIVERSITY OF PORTO (FEUP), Portugal.
- 09/2016–11/2023 **Supervision of M.Sc. Students**, DEPARTMENT OF INFORMATICS ENGINEERING (DEI), FACULTY OF ENGINEERING, UNIVERSITY OF PORTO (FEUP), Portugal.
Supervision of >10 students in topics related to: Artificial Intelligence, Natural Language Processing, and Machine Learning.

Scientific Events

Member of Programme Committees and Reviewer:, NAACL 2019, 2021, 2024; ACL 2019, 2020, 2021[‡]; EMNLP 2020[‡], 2021; ACL-IJCNLP 2020; WI-IAT 2020, 2021; EACL 2021; ICANN 2021; *SEM 2021; LREC-COLING 2024; Elsevier ESWA Journal. ([‡] Outstanding Reviewer recognition) .

Member of Organization Committees:, DSIE'17 (2017); Workshop ArgHumantation – Research and Practice(s) of Argumentation, ARGH, Media Innovation Labs, University of Porto (2018) .

Invited Talks

- 10/2017 **Challenges in Natural Language Processing: From Semantic Tasks to Argumentation Mining**. *Faculty of Arts and Humanities, University of Porto, Portugal*. JADIS VII / MEMITA
- 06/2018 **Argumentation Mining from Text**. *Smart Data Analytics (SDA), University of Bonn, Germany*.
- 11/2019 **Learning Text Representations**. *Faculty of Engineering, University of Porto, Portugal*.
- 07/2022 **Improving Transfer Learning in Unsupervised Language Adaptation**. *Bielefeld University, Germany*.

Selected Publications

1. Gil Rocha, Christian Stab, Henrique Lopes Cardoso and Iryna Gurevych. **Cross-Lingual Argumentative Relation Identification: from English to Portuguese**. 5th Workshop on Argumentation Mining, EMNLP, ACL. 2018.
2. Gil Rocha and Henrique Lopes Cardoso. **Towards Robust Auxiliary Tasks for Language Adaptation**. 29th European Symposium on Artificial Neural Networks, ESANN 2021.
3. Gil Rocha and Henrique Lopes Cardoso. **Context Matters! Identifying Argumentative Relations in Essays**. 37th ACM/SIGAPP Symposium on Applied Computing, ACM SAC 2022. **(Best Poster Award)**
4. Gil Rocha, Bernardo Leite, Luís Trigo, Henrique Lopes Cardoso, Rui Sousa-Silva, Paula Carvalho, Bruno Martins, and Miguel Won. **Predicting Argument Density from Multiple Annotations**. 27th International Conference on Applications of Natural Language to Information Systems, NLDB 2022. **(Best Paper Award)**
5. Gil Rocha, Henrique Lopes Cardoso, Jonas Belouadi, and Steffen Eger. **Cross-Genre Argument Mining: Can Language Models Automatically Fill in Missing Discourse Markers?**. *Argument & Computation*, 2024.

Honors and Awards

- 08/2013 **EBEC Final (Team Design category) - Second Place**, BEST WARSAW, Poland.
- 07/2015 **5th Lisbon Machine Learning School (LxMLS) - Travel grant**, Lisbon, Portugal.
- 10/2017 **ProDEI Ph.D. Scholarship**, DOCTORAL PROGRAM IN INFORMATICS ENGINEERING (PRODEI), Department of Informatics Engineering (DEI), Faculty of Engineering of the University of Porto (FEUP), Portugal.
- 12/2018 **FCT Ph.D. Scholarship**, FUNDAÇÃO PARA A CIÊNCIA E TECNOLOGIA (FCT), SFRH/BD/140125/2018.
Very competitive scholarships: Ranked in the top 10% among more than 100 candidates in the field of Computer Science
- 10/2019 **EurNLP Travel grant**, EURNLP, FACEBOOK LONDON, London, UK.

Skills and Languages

General	Computer Science, Mathematics, Software Engineering, Artificial Intelligence, Multi-Agent Systems, Machine Learning, Natural Language Processing
Programming Languages	Java, Python, SQL, MongoDB, JADE, Prolog, NumPy, SciPy, Pandas, scikit-learn, PyTorch, Hugging Face Portuguese (Native), English (Fluent), French (Fluent), Spanish (Basic)

Research Interests

Machine Learning, Natural Language Processing, Argumentation Mining, Computational Semantics, Transfer Learning, Cross-Language Learning, Knowledge Representation and Reasoning, and Multi-Agent Systems.