

Leonardo Filipe Rodrigues Ribeiro

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Education

November 2018 - now

Technische Universität Darmstadt, Darmstadt, Germany – *PhD in Computer Science*

Topic: Graph-based Neural Methods for Natural Language Generation. Advisor: Prof. Dr. Iryna Gurevych.

November 2015 - August 2018

Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil – *MSc in Computer and Systems Engineering*

Thesis: Learning Network Node Representations from Structural Identity. Advisor: Prof. Dr. Daniel Ratton Figueiredo. **Recipient of the 2018 Brazilian Artificial and Computational Intelligence Thesis Award**

September 2012 - June 2013

Universidad del País Vasco, San Sebastian, Spain – *International student*

Exchange Programme. Took computer science classes and did an internship as an exchange student.

January 2009 - August 2014

Centro Federal de Educação Tecnológica de Minas Gerais, Belo Horizonte, Brazil – *BSc in Computer Engineering*

Ranked 2nd in the class. Advisors: Prof. Dr. Rodrigo Gaiba de Oliveira, Prof. Dr. Bruno R. Silva.

February 2007 - November 2008

Colégio Técnico Padre de Man, Ipatinga, Brazil – *IT technician*

Ranked 1st in the class. Technical Course in Information Technology focused on software development.

February 2006 - June 2007

Acesita, Timóteo, Brazil – *Industrial Apprentice*

Industrial Apprentice and Trainee on Electrical and Electronic courses.

Work Experience

11/15/2018 - PRESENT

UKP Lab, Technische Universität Darmstadt, Darmstadt, Germany – *Doctoral Researcher*

- Research focuses are on neural graph methods for natural language generation (e.g., text generation and summarization using graph-based data). In particular, the research projects

contemplate graph-based inputs and propose different approaches to better represent graph structures for text generation.

- Supervised bachelor and master theses.
- Candidate evaluation for PhD- and PostDoc-level positions.
- Responsible for research group focused on Question Answering.

06/01/2021 - 10/01/2021

Alexa IA, Amazon, Seattle, United States (virtually) – *Applied Scientist Intern*

- Worked on improving factuality for neural abstractive summarization. We proposed a deep learning graph-based approach to classify the factual consistency of generated summaries. Advised by Markus Dreyer, Mengwen Liu and Mohit Bansal.

01/19/2015 - 11/09/2018

Labor Court of Rio de Janeiro (TRT1), Rio de Janeiro, Brazil – *IT Specialist*

- Design and development of applications (Web and mobile) for the Brazilian Federal Justice.
- Worked on the development of the Electronic Judicial Process. The system holds 6 million legal proceedings and about 900 million users registered. Technologies used: Java, Javascript, Angular, Oracle, HTML, CSS.

08/19/2013 - 01/16/2015

Labor Court of Minas Gerais (TRT3), Belo Horizonte, Brazil – *IT Specialist*

- Lead technical decisions and the team during the agile processes such as prioritization and estimation.
- Worked in different team sizes, tech stacks (backend, frontend, and infrastructure), and in different business contexts.

02/01/2013 - 30/06/2013

SGSmap Ingenieros Consultores, San Sebastian, Spain – *Software Developer Intern*

- Development of quality control applications for the production of grapes in vineyards and beverages in wineries.

03/04/2009 - 08/16/2013

Centro Federal de Educação Tecnológica de Minas Gerais, Timóteo, Brazil – *Software Developer*

- Responsible for the design, development, and maintenance of Information Technology solutions, including diverse academic applications for the institution. Technologies used: PHP, Java, Python, MySQL, Linux, Shell Script.
- Lead technical decisions and teams during academic projects of software development using agile methodologies.

01/10/2011 - 12/09/2011

Colégio Lúcia Casa Santa, Timóteo, Brazil – *Technical Instructor*

- Taught Information technology courses at the high school level.

- Courses: programming, algorithms, web development, database management.

07/04/2007 - 03/03/2009

TecWise Sistemas de Automação, Timóteo, Brazil – Industrial Automation Technician

- Specification, development and diagnostic on industrial automation systems (sensors, industrial networks, controllers, HMIs, SCADA systems, etc.) using many brands available on market (Rockwell, Siemens, Schneider, etc.).

02/13/2006 - 06/30/2007

Acesita SA (Aperam South America), Timóteo, Brazil – Industrial Apprentice

- Industrial Apprentice and Trainee on Electrical and Electronic courses. Courses: electrotechnics, electronics, industrial automation, technical drawing, metrology, computing, metallurgy.
- Developed projects using programmable logic controllers (PLC) – ABB, Siemens, Rockwell models – for automation of industrial platforms.

Publications

Leonardo F. R. Ribeiro, Mengwen Liu, Iryna Gurevych, Markus Dreyer, Mohit Bansal. 2022. **FactGraph: Evaluating Factuality in Summarization with Semantic Graph Representations**. *In Proceedings of the 2022 Annual Conference of the North American Chapter of the Association for Computational Linguistics*.

Tim Baumgärtner, Kexin Wang, Rachneet Sachdeva, Max Eichler, Gregor Geigle, Clifton Poth, Hannah Sterz, Haritz Puerto, Leonardo FR Ribeiro, Jonas Pfeiffer, Nils Reimers, Gözde Gül Şahin, Iryna Gurevych. 2022. **UKP-SQUARE: An Online Platform for Question Answering Research**. *In Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics, Demo Track*.

Leonardo F. R. Ribeiro, Yue Zhang and Iryna Gurevych. 2021. **Structural Adapters in Pretrained Language Models for AMR-to-text Generation**. *In Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing (EMNLP)*.

Leonardo F. R. Ribeiro, Jonas Pfeiffer, Yue Zhang and Iryna Gurevych. 2021. **Smelting Gold and Silver for Improved Multilingual AMR-to-Text Generation**. *In Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing (EMNLP)*.

Leonardo F. R. Ribeiro, Martin Schmitt, Hinrich Schütze and Iryna Gurevych. 2021. **Investigating Pretrained Language Models for Graph-to-Text Generation**. *In Proceedings of the 3rd Workshop on NLP for ConvAI. 2021 Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing (EMNLP)*.

Mohsen Mesgar, Leonardo F. R. Ribeiro, Iryna Gurevych. 2021. **A Neural Graph-based Local Coherence Model**. In *Proceedings of the Findings of the Association for Computational Linguistics: EMNLP 2021*. Association for Computational Linguistics.

Martin Schmitt, Leonardo F. R. Ribeiro, Philipp Dufter, Iryna Gurevych, Hinrich Schütze. 2021. **Modeling Graph Structure via Relative Position for Text Generation from Knowledge Graphs**. In *Proceedings of the TextGraphs-15 Workshop: Graph-based Methods for Natural Language Processing*. 2021 Annual Conference of the North American Chapter of the Association for Computational Linguistics.

Leonardo F. R. Ribeiro, Yue Zhang, Claire Gardent and Iryna Gurevych. 2020. **Modeling Global and Local Node Contexts for Text Generation from Knowledge Graphs**. *Transactions of the Association for Computational Linguistics (TACL)*, 2020.

Anne Lauscher, Olga Majewska, Leonardo F. R. Ribeiro, Iryna Gurevych, Nikolai Rozanov, Goran Glavas. 2020. **Common Sense or World Knowledge? Investigating Adapter-Based Knowledge Injection into Pretrained Transformers**. In *Proceedings of Deep Learning Inside Out (DeeLIO): The First Workshop on Knowledge Extraction and Integration for Deep Learning Architectures*, Association for Computational Linguistics.

Leonardo F. R. Ribeiro, Claire Gardent and Iryna Gurevych. 2019. **Enhancing AMR-to-Text Generation with Dual Graph Representations**. In *Proceedings of the 2019 Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing (EMNLP-IJCNLP)*.

Leonardo F. R. Ribeiro, Claire Gardent and Iryna Gurevych. 2019. **Learning Dual Graph Representations for AMR-to-Text Generation**. *The First International Workshop on Deep Learning on Graphs: Methods and Applications (DLG'19)*. 23rd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining.

Tobias Falke, Leonardo F. R. Ribeiro, Prasetya Utama, Ido Dagan and Iryna Gurevych. 2019. **Ranking Generated Summaries by Correctness: An Interesting but Challenging Application for Natural Language Inference**. In *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics (ACL)*, 2019.

Leonardo F. R. Ribeiro, Daniel R. Figueiredo. 2018. **Performance of Monte Carlo Tree Search Algorithms when Playing the Game Ataxx**. In *Proceedings of the 15th National Meeting on Artificial and Computational Intelligence*. Brazil.

Leonardo F. R. Ribeiro, Pedro H. P. Saverese, Daniel R. Figueiredo. 2017. **struc2vec: Learning Node Representations from Structural Identity**. In *Proceedings of the 23rd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*.

Leonardo F. R. Ribeiro, Daniel R. Figueiredo. 2017. **Ranking lawyers using a social network induced by legal cases**. *Journal of the Brazilian Computer Society*.

Invited Talks

- **Injecting structure into pretrained language models.** January 2022, The IST and Unbabel Seminar, Lisbon, Portugal.
- **Structural Adapters in Pretrained Language Models for AMR-to-text Generation.** November 2021, UKP-CIS Research Workshop, Virtual.
- **Graph-to-Text Generation with Pretrained Language Models.** October 2021, Huawei Intelligent Collaboration Workshop 2021, Leuven, Belgium.
- **Graph-to-Text Generation with Graph Neural Encoders and Pretrained Language Models.** November 2020, School of Electrical and Computer Engineering (FEEC), University of Campinas, Brazil.
- **Ranking Generated Summaries by Correctness.** June 2019, Natural Language Processing (NLP) Lab, Bar-Ilan University, Ramat Gan, Israel.

Awards and Scholarships

- **2019.** Honorable Mention on the DATAH Master Dissertation Artificial Intelligence Contest in Brazil.
- **2018.** Best Master's Thesis Award. 11th Thesis and Dissertation on Artificial and Computational Intelligence Contest in Brazil.
- **2012-2013.** Science Without Borders scholarship from the Brazilian government to study one year at the Universidad del País Vasco, Spain.
- **2016.** Honorable Mention for paper in Brazilian Workshop on Social Network Analysis and Mining (BraSNAM).
- **2014.** Graduating Student Award - Computer Engineering — 2nd Place.
- **2008.** Graduating class for Technical Degree of Informatics — 1st Place.

Advising

MSc student supervision:

- **2020.** Tobias Andreas Semmelmann. Thesis: Injecting Graph Structure into Pretrained Language Models to Improve AMR-to-text Generation.
- **2019.** Alina Dallmann. Thesis: Employing Graph Neural Networks for Text Production from Knowledge Graphs.

BSc student supervision:

- **2021.** Lennart Mischnaewski. Thesis: Reasoning over Knowledge Graphs for Generative Question Answering.

Editorial Activities

Conferences:

- **2022. Area Chair**, The 29th International Conference on Computational Linguistics (COLING 2022).

Reviewing Activities

Conferences:

[Each listed year is a reviewing load of 3-5 papers.]

- **2022.** 36th AAAI Conference on Artificial Intelligence, Vancouver, Canada.
- **2021-2022.** ACL (Association for Computational Linguistics) Rolling Review.
- **2021.** Brazilian Conference on Intelligent Systems, Virtual.
- **2021.** The 2021 Conference on Empirical Methods in Natural Language Processing, Punta Cana, Dominican Republic.
- **2021.** The 59th Annual Meeting of the Association for Computational Linguistics, Virtual.
- **2021.** 2021 Annual Conference of the North American Chapter of the Association for Computational Linguistics, Virtual.
- **2021.** 35th AAAI Conference on Artificial Intelligence, Virtual.
- **2020.** The 2020 Conference on Empirical Methods in Natural Language Processing, Virtual.
- **2020.** Brazilian Conference on Intelligent Systems, Rio Grande, Brazil.

Journals:

[Each listed year is a reviewing load of 1-3 papers.]

- **2021.** Journal of Machine Learning Research.
- **2021.** Language Resources and Evaluation (LREV).

Workshops:

[Each listed year is a reviewing load of 1-3 papers.]

- **2021.** 15th Workshop on Graph-Based Natural Language Processing, 2021 Annual Conference of the North American Chapter of the Association for Computational Linguistics, Virtual.
- **2021.** Evaluation and Comparison of NLP Systems (Eval4NLP), The 2021 Conference on Empirical Methods in Natural Language Processing, Punta Cana, Dominican Republic.
- **2020.** Evaluation and Comparison of NLP Systems (Eval4NLP), The 2020 Conference on Empirical Methods in Natural Language Processing, Virtual.
- **2020.** 14th Workshop on Graph-Based Natural Language Processing, The 28th International Conference on Computational Linguistics, Barcelona.
- **2020.** Third Workshop on Multilingual Surface Realization, The 28th International Conference on Computational Linguistics, Barcelona.
- **2019.** Second Workshop on Multilingual Surface Realization, The Conference on Empirical Methods in Natural Language Processing, Hong Kong.

Skills

Languages: Portuguese (native), English (fluent), Spanish (advanced), German (basic)