

BRENO MATOS

M.Sc. Student in Computer Science

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EDUCATION

Master's Degree in Computer Science (Grade Average: 97/100)

UFMG, Federal University of Minas Gerais

Present

Belo Horizonte, Brazil

- UFMG's Graduate Program in Computer Science is one of Brazil's oldest and most well-established in Computer Science in the country: pgcc.dcc.ufmg.br
- Awarded a Google Latin America Research Award (42,000 BRL/8,500 USD)
- M.Sc. Fellowship funded by the Public Ministry of Minas Gerais
- Research Areas: Natural Language Processing, Computational Social Science.
- Advisors: Professor Fabrício Benevenuto, Ph.D., Professor Rodrygo L.T. Santos, Ph.D.

Bachelor's Degree in Computer Science (Grade Average: 81/100)

UFMG, Federal University of Minas Gerais

Mar/2021

Belo Horizonte, Brazil

- Comprehensive Computer Science coursework. Includes, but is not limited to, Algorithm Design, Machine Learning, Natural Language Processing, Quantum Computing, Compilers, Data Science, and Computer Networks.
- Acquired both research and software development experience throughout all Bachelor's duration. Explored multiple research topics, including computational social science, misinformation, information retrieval, and AI Fairness. Developed software solutions alongside Brazilian governmental agencies.

WORK EXPERIENCE

Research Assistant: Information Retrieval

Data Commons Brazil (Google and UFMG)

Sep 2023 – Present

Belo Horizonte, Brazil

- Project funded by Google to expand Data Commons to include Brazilian data. Data Commons is an initiative by Google to bridge the gap between publicly available data and its practical usability to address major challenges like climate change and health epidemics. Supervised by Fabrício Benevenuto, Ph.D..

Research Assistant: Natural Language Processing

Computer Science Department, UFMG

Aug 2023 – Present

Belo Horizonte, Brazil

- Working on state-of-the-art Large Language Models for text-to-SQL and conversational search. Funded by the Public Ministry of Minas Gerais. Supervised by Professor Rodrygo L.T. Santos, Ph.D..

Summer@EPFL - Research Intern

Swiss Federal Institute of Technology in Lausanne (EPFL)

Jul 2022 – Sep 2022

Lausanne, Switzerland

- Worked on developing a framework to audit online recommendation systems and conducting experiments with bots to account for personalization. Supervised by Prof. Robert West, Ph.D. and Manoel Horta Ribeiro

Head Teaching Assistant

Computer Science Department, UFMG

Mar 2022 – Jul 2022

Belo Horizonte, Brazil

- Responsible for overseeing 80+ students' semester projects and weekly activities for the Introduction to Data Science course at UFMG. Supervised by Prof. Flávio Figueiredo, Ph.D.

Research Assistant: Information Retrieval

Computer Science Department, UFMG

Feb 2021 – Jun 2023

Belo Horizonte, Brazil

- Worked on developing a robust platform that allows non-specialized users to implement powerful crawlers used to gather public data from Brazilian governmental agencies. Funded by the Public Ministry of Minas Gerais. Advisor: Professor Rodrygo L.T. Santos, Ph.D.

Research Assistant: Information Retrieval

Brazilian Institute of Geography and Statistics (IBGE) and UFMG

📅 Oct 2020 – Mar 2021

📍 Belo Horizonte, Brazil

- Developed an application to aid IBGE's analysts in their duties and automate tasks, such as calculating inflation based on products available online. **Funded by the Brazilian Institute of Geography and Statistics (IBGE)**. Advisor: Professor Rodrygo L.T. Santos, Ph.D.

Research Assistant: Social Media Monitoring and Misinformation

Computer Science Department, UFMG

📅 Jan 2020 – Jan 2021

📍 Belo Horizonte, Brazil

- Developed monitoring applications for social media (WhatsApp, Telegram, and Instagram). Said applications were used for multiple research projects. Aided a graduate student on his project for sentiment analysis for comparative sentences in Portuguese. **Fellowship funded by the Public Ministry of Minas Gerais**. Advisor: Professor Fabrício Benevenuto, Ph.D.

Research Assistant: Political Analysis with Networks

Computer Science Department, UFMG

📅 Oct 2017 – Dec 2019

📍 Belo Horizonte, Brazil

- **Fellowship funded by the ATMOSPHERE project (joint initiative: European Commission and Brazilian Government)**
- Performed data analysis using complex networks, including state-of-the-art network backbone extraction techniques. Helped develop a method to analyze governance using voting session data from the US House of Representatives.
- Worked on an international project with researchers from Politecnico di Torino regarding Instagram data monitoring before and after the Italian and Brazilian elections.
- Advisor: Professor Jussara M. Almeida, Ph.D.

PUBLICATIONS

- Breno Matos, Rennan C. Lima, Rodrygo Santos, Savvas Zannettou & Fabrício Benevenuto, "Misinformation Span Detection on Videos via Audio Transcripts", under submission at The Web Conference (formerly WWW).
- Breno Matos, Rennan C. Lima, Jussara M. Almeida, Marcos A. Gonçalves, Rodrygo Santos, "Intellectual Dark Web, Alt-lite and Alt-right: Are They Really That Different? A Multi-Perspective Analysis of the Textual Content Produced by Contrarians", under submission at the Social Network Analysis and Mining Journal, Springer.
- Breno Matos, Rennan Lima, Jussara M. Almeida, Rodrygo L.T. Santos, & Marcos Gonçalves - "On the Presence of Abusive Language in Mis/Disinformation", The 13th International Conference on Social Informatics. SocInfo '22 (*Research presentation done by me*)
- Carlos Henrique Gomes Ferreira, Breno Matos & Jussara M. Almeida - "Analyzing Dynamic Ideological Communities in Congressional Voting Networks". Lecture Notes in Computer Science. 1ed.: Springer International Publishing, 2018
- Carlos Henrique Gomes Ferreira, Fabricio Murai Ferreira, Breno Matos, and Jussara Marques de Almeida. "Modeling Dynamic Ideological Behavior in Political Networks". The Journal of Web Science 1 (2019)
- Daniel Kansoon, Michele A. Brandão, Julio C.S. Reis, Matheus Barbosa, Breno Matos, Fabrício Benevenuto - "Mining Portuguese Comparative Sentences in Online Reviews". XXVI Brazilian Symposium on Multimedia and the Web (2020)
- Breno Matos, Fabrício Benevenuto, Ana P.C. Da Silva - "A Nudez como Estereótipo de Beleza através das Lentes do Instagram". X Brazilian Workshop on Social Network Analysis and Mining, 163-168 (2021) (*Research presentation done by me*)
- Breno Matos, Carlos H. G. Ferreira, Jussara M. Almeida - "Analisando a governabilidade presidencial a partir de padrões de homofilia na Câmara dos Deputados: Estudos de Casos no Brasil e nos EUA". In: CSBC 2018 - VII BraSNAM, 2018, Natal. 7º Brazilian Workshop on Social Network Analysis and Mining (BraSNAM 2018), 2018 (*Research presentation done by me*)

AWARDS AND RECOGNITIONS

Google Latin American Research Award

Research grant structured as an unrestricted gift - 42,000 BRL/8,500 USD

📅 To start in 2024

📍 Belo Horizonte

Best Short Paper Winner

X Brazilian Workshop on Social Network Analysis and Mining, BraSNAM

📅 2021

📍 Virtual Edition

Best Full Paper Nominee

Social Informatics: 10th International Conference

📅 2018

📍 Saint Petersburg
