

Breno Matos

LinkedIn: linkedin.com/in/brenomatos

Email: smatosbreno@gmail.com

Homepage: brenomatos.github.io/

EDUCATION

- **Federal University of Minas Gerais (UFMG)**

M.Sc. in Computer Science. Area: Natural Language Processing. Average Grade: 97/100
Thesis awarded a Google Latin America Research Award

Belo Horizonte, MG, Brazil

May 2021 - Currently

- **Federal University of Minas Gerais (UFMG)**

B.Sc. in Computer Science Area: Fairness in Information Retrieval. Average Grade: 81/100

Belo Horizonte, MG, Brazil

2017 - March 2021

WORK EXPERIENCE

- **Kunumi**

Data Scientist

Belo Horizonte, Brazil

July 2024 - Present

- Building automated corporate credit analysis tools using SOTA LLMs

- Tasks include (but not limited to) semantic search using FAISS, feature extraction, summarization, implementing agents.

- **Public Prosecutor's Office of Minas Gerais (MPMG) at DCC/UFMG**

Research Development Software Engineer

Belo Horizonte, Brazil

January 2020 - Present

- Currently working with State-of-the-art LLMs (LLaMa and CodeLLaMa) to build a conversational text-to-SQL tool that allows users to query MPMG's databases seamlessly.

- Helped develop a crawler configuration software. Utilized expertise in web scraping to architect solutions for complex data extraction needs. The software allowed the configuration of more than 5000 crawlers to target websites.

- Developed social media monitoring tools that allowed public prosecutors to gather data for 100+ daily Instagram profiles and monitor 1000+ Whatsapp and Telegram groups. These tools are used to aid investigations and prosecutions by MPMG.

- **Brazilian Institute of Geography and Statistics (IBGE) at DCC/UFMG**

Full Stack Developer

Belo Horizonte, Brazil

October 2020 - March 2021

- Led the website development for a novel platform that aided IBGE's analysts in calculating economic metrics such as inflation based on product availability online. The platform was built with Django and Reactjs, hosted information about 10,000+ products crawled online, and provided insights on trends and aggregated data analyses.

ACADEMIC EXPERIENCE

- **LATIN & LOCUS labs**

M.Sc. Researcher

Belo Horizonte, Brazil

May 2021 – October 2024

- Awarded a Google Latin America Research Award

- Researched radical communities online and misinformation text patterns. Proposed a new misinformation detection task and provided the first data and baselines.

- Researched virality patterns of songs on TikTok, unraveling a re-popularization effect.

- Wrote 4 papers (3 accepted, 1 under submission)

- **DataCommons Brazil (partnership between Google and UFMG)**

Research Development Software Engineer

Belo Horizonte, Brazil

September 2023 – October 2024

- Responsible for building crawlers with Playwright to gather data from Brazilian public agencies from 2,000+ sources. Data Commons is Google's open-data initiative to address major challenges like climate change and health epidemics through public data.

- **Data Science Lab (DLAB) at Swiss Federal Institute of Technology in Lausanne**

Research Assistant - Summer@EPFL Intern

Lausanne, CH

July 2022 - October 2022

- Worked on a project to assess radicalization online. Built a framework to audit online recommendation systems through 100+ bots that mimicked real-user patterns. Conducted experiments to determine if platforms radicalized users through recommendations and our findings pointed to it not being the case.

- **Social Computing Lab (LOCUS) at DCC/UFMG**

Research Assistant

Belo Horizonte, Brazil

October 2017 - February 2021

- Worked on early-pandemic misinformation, gathering data shared across WhatsApp and Telegram groups and generating weekly reports for journalists, who used the reports to debunk COVID misinformation.

- Worked on modeling through complex networks and helped develop a method to analyze governance using voting session data from the US House of Representatives. Also worked with backbone extraction algorithms for dense networks.

TEACHING AND SERVICES

- **ACM Transactions on Social Computing** Belo Horizonte, Brazil
Reviewer *May 2024 – Present*
- **Computer Science Department (DCC) at UFMG** Belo Horizonte, Brazil
Head Teaching Assistant *March 2022 - July 2022*
 - Responsible for overseeing 80+ students' semester projects and weekly activities for the Introduction to Data Science course at UFMG. Work included mentoring students and answering questions related to the coursework.

SKILLS SUMMARY

- **Platforms and Programming:** Python, C/C++, JavaScript, SQL, Bash, Web
- **Tools and Frameworks:** PyTorch, Docker, Jenkins, CI/CD, Git, Elasticsearch, HuggingFace, Django, React.js, NetworkX, Jupyter, Transformers, Sklearn, Playwright
- **Languages:** Portuguese (Native), English (Fluent), French (Beginner)

SELECTED PUBLICATIONS [GOOGLE SCHOLAR LINK](#)

- *Breno Matos, Francisco Galuppo, Rennan C. Lima, Flávio Figueiredo “I’ve Heard This Before: Initial Results on Tiktok’s Impact On the Re-Popularization of Songs.”* – 1st Latin American Music Information Retrieval (LAMIR) workshop, 2024.
- *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”* – 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
- 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)
- Carlos Henrique Gomes Ferreira, *Breno Matos & Jussara M. Almeida* - “Analyzing Dynamic Ideological Communities in Congressional Voting Networks”. Social Informatics: 10th International Conference, SocInfo 2018
- Daniel Kansaon, 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” – english: [Nudity as a Beauty Stereotype through the Lens of Instagram]. X Brazilian Workshop on Social Network Analysis and Mining, (2021)*
- *Breno Matos, Carlos H. G. Ferreira, Jussara M. Almeida - “Analizando a governabilidade presidencial a partir de padrões de homofilia na Câmara dos Deputados: Estudos de Casos no Brasil e nos EUA” – english: [Analyzing presidential governability based on homophily patterns in the Chamber of Deputies: Case Studies in Brazil and the USA]. In: 7th Brazilian Workshop on Social Network Analysis and Mining (BraSNAM), 2018*

AWARDS AND RECOGNITIONS

- **Google Latin America Research Award** Belo Horizonte, BR
Research grant structured as an unrestricted gift - 8,500 USD/42,000 BRL *December 2023*
- **ICWSM-24** Virtual
Virtual Attendance Scholarship Award *May 2024*
- **Best Short Paper** Virtual
X Brazilian Workshop on Social Network Analysis and Mining, BraSNAM *2021*
- **Best Full Paper Nominee** Saint Petersburg
Social Informatics: 10th International Conference, SocInfo *2018*