

Gabriel P. Oliveira

Data Scientist and Researcher

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Education

- 2021–Present **Ph.D. in Computer Science**, *Universidade Federal de Minas Gerais*, Brazil.
Advisor: Prof. Mirella M. Moro, Ph.D. **Current GPA:** 94.9 out of 100
Co-advisor: Prof. Ana Paula Couto da Silva, Ph.D. **Expected Graduation:** October 2025
- 2019–2021 **M.Sc. in Computer Science**, *Universidade Federal de Minas Gerais*, Brazil.
Thesis: Analyses of Musical Success based on Time, Genre and Collaboration **GPA:** 92.0 out of 100
Advisor: Prof. Mirella M. Moro, Ph.D.
Co-advisor: Prof. Anisio Lacerda, Ph.D.
- 2015–2018 **B.Sc. in Computer Science**, *Universidade Federal de Minas Gerais*, Brazil.
Tie Strength in GitHub Heterogeneous Networks **GPA:** 91.3 out of 100
Advisor: Prof. Mirella M. Moro, Ph.D.
Co-advisor: Prof. Michele A. Brandão, Ph.D.
- 2012–2014 **High School Technical Degree in Computer Networks**, *Centro Federal de Educação Tecnológica de Minas Gerais*, Brazil.

Professional Experience

- 2021–Present **Data Scientist**, Universidade Federal de Minas Gerais + Ministério Público de Minas Gerais.
Member of the Analytical Capabilities Project conducted jointly by the Computer Science Department of UFMG and the Prosecution Service of the State of Minas Gerais. The activities consist in building models to detect evidence of fraud in public bids, as well as implementing the classification and enrichment of public expenditure data using machine learning and natural language processing techniques.
- 2019–2023 **Research Assistant**, *Project Både*, Universidade Federal de Minas Gerais.
The goal of this project is to define semantic metrics based on data from social networks aiming at different applications and services for them. Specifically, my research focus on analyzing different aspects of musical success and how it is related to collaboration and music genres.
- 2019 **Data Science Intern**, Universidade Federal de Minas Gerais + Localiza.
Member of the Data Science Residency Program conducted jointly by the Computer Science Department of UFMG and Localiza. My activities included developing machine learning models to solve real problems of the car rental segment by using techniques such as clustering, frequent pattern and association rule mining.
- 2018–2019 **Software Engineering Intern**, dti digital crafters.
My activities included on modeling SQL databases, creating APIs in C# .NET and developing interfaces in HTML5/CSS3 and AngularJS.
- 2017–2018 **Undergraduate Research Assistant**, *Project FoRGit*, Universidade Federal de Minas Gerais.
The goals of this project included building a heterogeneous social collaboration network from GitHub, analyzing new parameters that measure the interactions between GitHub developers, and propose new metrics for their social capital.
- 2016–2017 **Undergraduate Teaching Assistant**, *Computer Science Department*, Universidade Federal de Minas Gerais.
Teaching assistant in the Computer Programming course (DCC001) for Engineering students.
- 2015 **IT Support Intern**, *Support Center for e-learning*, Universidade Federal de Minas Gerais.
My activities included network and server management, user support, support to audiovisual content production, and web conferencing management.

Skills

Technologies	Python, SQL, Jupyter, PySpark, C/C++, C#, JavaScript, Apache Hive
Libraries	Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, NetworkX
Hard Skills	Machine Learning, Statistical Analysis, Data Mining, Social Network Analysis
Soft Skills	Communication, Teamwork, Problem Solving, Career-focused

Languages

Portuguese	Native	
English	Advanced	TOEFL ITP score: 613 out of 677 (CEFR B2), 2018
Italian	Intermediate	
Spanish	Basic	

Awards

- 2023 **Best Master Thesis Award**, Brazilian Symposium on Databases (SBBD).
Prize awarded in the 5th Contest of Theses and Dissertations on Databases.
- 2022 **Best Master Thesis Award – Runner-up**, Congress of the Brazilian Computer Society (CSBC).
One of the ten Master theses selected for presentation at the Theses and Dissertations Contest of the Congress of the Brazilian Computer Society.
- 2018 **Best Graduating Student Award – 1st Runner-up**, Universidade Federal de Minas Gerais.
Prize awarded for students with the highest GPA in the Computer Science Undergraduate Program.

Selected Publications

The complete list of publications is available on my webpage.

- 2023 **Hot streaks in the music industry: identifying and characterizing above-average success periods in artists' careers**, *Scientometrics*.
GP Oliveira, MO Silva, DB Seufitelli, GRG Barbosa, BC Melo, MM Moro
- 2023 **Hit song science: a comprehensive survey and research directions**, *J. of New Music Research*.
DB Seufitelli, GP Oliveira, MO Silva, C Scofield, MM Moro
- 2023 **PLUS: A Semi-automated Pipeline for Fraud Detection in Public Bids**, *Digital Government: Research and Practice (DGOV)*.
MA Brandão, APG Reis, BMA Mendes, CAB Almeida, GP Oliveira, H Hott, LD Gomide, LL Costa, MO Silva, A Lacerda, and GL Pappa
- 2022 **How do developers collaborate? Investigating GitHub heterogeneous networks**, *Software Quality Journal*.
GP Oliveira, AFC Moura, NA Batista, MA Brandão, A Hora, MM Moro
- 2021 **Hot Streaks in the Brazilian Music Market: A Comparison Between Physical and Digital Eras**, *Brazilian Symposium on Computer Music (SBCM)*, Brazil, **Best Paper Award**.
GRG Barbosa, BC Melo, GP Oliveira, MO Silva, DB Seufitelli, MM Moro
- 2020 **Detecting Collaboration Profiles in Success-based Music Genre Networks**, *International Society for Music Information Retrieval Conference (ISMIR)*, Montréal, Canada, **Best Paper Presentation Award**.
GP Oliveira, MO Silva, DB Seufitelli, A Lacerda, MM Moro

Other activities

- 2023 External Reviewer – BraSNAM, SEMISH, DSW
- 2022 External Reviewer – BraSNAM, SBBD
- 2021 External Reviewer – WebMedia, SEMISH, WEI
- 2014 Academic Secretary – CEFET-MG Model United Nations (MOCS)