

# Gabriel Bromonschenkel

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## Professional Experience

- **Banco do Brasil (via Stefanini)** Brasília, Brazil  
Apr 2023 – Present  
*Data Scientist*
  - Developed a people analytics clustering model for talent discovery; identified 300+ high-potential employees for IT roles, enabling the department to double its available positions.
  - Engineered an end-to-end OCR pipeline for fraud detection using Tesseract and NLP similarity scoring, increasing audit coverage by 15% and preventing millions in potential fines.
  - Architected a recommendation system for the investment news platform, using Spark ML (ALS); migrated from SVD-based models to handle large-scale enterprise data volume.
  - Applied causal inference and multi-armed bandits for debt renegotiation experiments, optimizing discount levels to increase final capital recovery.
  
- **Tok&Stok** São Paulo, Brazil  
Jun 2022 – Mar 2023  
*Data Scientist*
  - Improved a Slack bot for anomaly detection and Power BI automation, reducing business complaints by 30% and lowering software costs by centralizing premium license usage.
  - Integrated CI/CD for BI via GitHub Actions, enabling versioning and automated rollbacks for 75% of company reports.
  - Managed data marts in Azure Analysis Services, ensuring >90% data integrity during a complex business transition through custom DBT and SQL adaptations.

## Research Experience

- **Imaging, Vision and AI Laboratory (LIVIA)** Montreal, Canada  
Sep 2025 – Oct 2025  
*Visiting Researcher*
  - Researched Vision-Language Models (VLMs) for image captioning at the École de Technologie Supérieure (ÉTS), Université du Québec; conducted comparative evaluations of Transformer-based models; investigated the efficacy of unimodal and multimodal metrics.
  - Optimized 7B+ parameter models for GPU memory using LoRA, QLoRA, and 4-bit Quantization.
  
- **Computational Intelligence Laboratory (LAICSI)** Serra, Brazil  
Sep 2023 – Dec 2025  
*AI Research Assistant*
  - Conducted research on multimodal Transformers for image captioning in Portuguese at the Federal Institute of Espírito Santo (IFES), Campus Serra.
  - Lead researcher on multimodal models for Brazilian Portuguese; pioneered studies on translation effects over Vision Encoder-Decoder (VED) models and Large VLMs like Llama and Phi-3 for Vision.
  
- **University of São Paulo (USP)** São Paulo, Brazil  
Jul 2020 – Dec 2021  
*AI Research Assistant*
  - Researched hybrid methods applying Machine Learning and Ontologies for psychiatric clinical analysis, using Scikit-Learn and Unified Foundation Ontology (UFO).
  
- **Federal University of Espírito Santo (UFES)** São Mateus, Brazil  
Aug 2019 – Aug 2021  
*AI Research Assistant*
  - Applied convolutional autoencoders for smart grid load identification using Tensorflow, MongoDB, and Databricks.
  - Investigated the junction of convolutional neural networks and extreme learning machines for face recognition using Keras.

## Education

- **Federal Institute of Espírito Santo (IFES)** Serra, Brazil  
2023 – 2025  
*M.Sc. in Computer Science (Applied Computing)*
  
- **Federal University of Espírito Santo (UFES)** São Mateus, Brazil  
2017 – 2022  
*B.Sc. in Computer Engineering*

## Technical Skills

- ML & AI:** VLM, LLM, NLP, CV, Transformers (ViT, Swin, BERT, GPT).  
**Big Data:** PySpark, Hadoop, Hive, Hue, Spark MLLib, Databricks, Snowflake, DBT.  
**Tools:** AWS, Azure, Python, SQL, Terraform, Docker, Kubernetes, GitHub Actions.