Gabriel Bromonschenkel

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Experience

Stefanini (Client: Banco do Brasil) Brasilia, DF
Data Scientist *Apr 2023 - Present*

- Developed a people analytics model for talent discovery, identifying over 300 high-potential employees for IT roles and enabling the department to double its available positions.
- Built an OCR pipeline for fraud detection in international payments, extending analysis to invoices and documents, increasing coverage by 15% and preventing millions in potential fines.
- Designed and built a recommendation system for the bank's investment platform to deliver customized news based on user behavior and segment trends.

Computational Intelligence and Information Systems Laboratory (LAICSI) Serra, ES
AI Research Assistant *Sep 2023 - Present*

- Conducted research on multimodal models, specifically Vision-Language Models (VLMs) for Image Captioning in Brazilian Portuguese, pioneering a comparative evaluation of Transformer-based models for this task.
- Investigated the effects of automatic translation on Vision Encoder-Decoder models and explored advanced fine-tuning strategies like LoRA, QLoRA, and quantization for GPU memory optimization.

Tok&Stok Sao Paulo, SP
Data Scientist *Jun 2022 - Mar 2023*

- Managed and scaled data marts in Azure Analysis Services with millions of rows, ensuring over 90% data integrity through major business transitions.
- Developed a Slack bot with anomaly detection, reducing the rate of complaints due to data errors by 30% and reported incidents by 40%.
- Scaled up Power BI publishing via a Slack bot integrated with GitHub, versioning over 75% of reports, and enabling rollbacks.

Tok&Stok Sao Paulo, SP
Data Science Intern *Oct 2021 - May 2022*

- Built reports and performed analyses to optimize decision-making regarding customer budgets, sales, and product discounts.
- Developed sales predictive analytics models and analyzed key performance metrics.

University of Sao Paulo Sao Paulo, SP
AI Research Assistant *Jul 2020 - Dec 2021*

- Researched methods for applying machine learning and ontologies together for psychiatric analysis.

Federal University of Espirito Santo Sao Mateus, ES
AI Research Assistant *Aug 2019 - Aug 2021*

- Researched methods for load identification in Smart Grids. Researched methods for face recognition with CNNs and ELMs concepts
- Created and processed datasets to support high-scale deep learning experiments. Trained and evaluated neural networks with accuracy above 90%.

Education

Federal Institute of Espirito Santo (IFES) Serra, ES
M. Sc., Applied Computing/Computer Science *2023 – Present*

Federal University of Espirito Santo (UFES) Sao Mateus, ES
B. Sc., Computer Engineering *2017 – 2022*

Technical Skills

Cloud Platforms: AWS, Azure, GCP, and DO;

Programming Languages: Python, SQL, Java, C++, and C;

Apache for Big Data: Hadoop, Hive, Hue, and Spark (PySpark);

Data Warehouses: Redshift, BigQuery, Snowflake, dbt;

Databases: Oracle, PostgreSQL, Db2, MySQL, and MongoDB;

Orchestration/Integration: Prefect, Airflow, and Pentaho;

Data/Model Visualization: Power BI, Tableau, Matplotlib, Seaborn, Plotly, Bokeh, Folium, Yellowbrick, and SHAP;

Machine Learning Tools: Scikit-Learn, XGBoost, Keras, Tensorflow, PyTorch, OpenCV, Hugging Face (Transformers, Datasets, Evaluate), PyG, and Spark MLlib;

Data Analysis/Manipulation: Pandas, GeoPandas, NumPy, and Scipy;

AutoML: PyCaret, and TPOT;

Infrastructure as Code: Terraform;

CI/CD and Versioning: GitHub, GitLab, and Bitbucket;

Artificial Intelligence: Natural Language Processing (NLP), Multimodal Learning, Pattern Recognition, Statistical Learning, Optical Character Recognition (OCR), Machine Learning, Deep Learning, Generative Artificial Intelligence, Computer Vision.

Deep Neural Networks: Convolutional Neural Networks (CNN), Transformers, Generative Pre-trained Transformer (GPT), Bidirectional Encoder Representations from Transformers (BERT), Contrastive Language-Image Pre-training (CLIP), Vision Transformers (ViT), Swin Transformers (Swin), Long-Term Short Memory Networks (LSTM), Large Language Models (LLM), Small Language Models (SLM), Vision-Language Models (VLM), Multimodal Large Language Models (MLLM), Pre-Training, Fine-Tuning, Post-Training, Generation, Monitoring, Quantization, Low-Rank Adaptation (LoRA), Quantized Low-Rank Adaptation (QLoRA).