

# NEEMIAS BUCÉLI

Artificial Intelligence Specialist | PhD Candidate in Artificial Intelligence

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## SUMMARY

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AI Specialist and PhD Candidate in Artificial Intelligence specializing in Multimodal Large Language Models (MLLMs), Retrieval-Augmented Generation (RAG), and conversational AI agents. Currently driving and standardizing enterprise AI initiatives across Grupo Águia Branca, one of Brazil's largest transportation and logistics conglomerates. Proven track record building Data & AI divisions from the ground up, architecting production multi-agent systems (Google ADK, Agent Engine, LangGraph), and deploying end-to-end MLOps pipelines on GCP and Azure. Author of peer-reviewed research on MLLMs, visual sentiment analysis, and computational social systems.

## EXPERIENCE

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**Artificial Intelligence Specialist**, GAB — Grupo Águia Branca — Remote Apr 2026 – Present

- Drive and standardize AI initiatives at scale across the holding of one of Brazil's largest transportation and logistics conglomerates — 25+ companies spanning the passenger, commerce, and logistics divisions.

**Master Data Specialist**, CI&T — Curitiba, PR, Brazil Jul 2025 – Mar 2026

- Built and led the inaugural Data & AI division for a global packaging-industry client — delivered forecasting models, ML-driven limits generation, automated tendency detection, and end-to-end MLOps pipelines on Vertex AI, driving significant cost reductions.
- Technically led a data team building a production-ready multi-agent system with Google ADK and Agent Engine for an agricultural fintech client; deployed the user-facing front end on Cloud Run with SSO authentication.
- Supported broader technology deployments via GKE and surfaced model insights through Streamlit and TypeScript applications.

**Senior AI / Machine Learning Engineer**, HVAR — Remote Jan 2025 – Jul 2025

- Designed an enterprise support chatbot using LangGraph and Vertex AI — orchestrated as a modular state machine for context-aware, multi-turn conversations — deployed on Cloud Run with semantic retrieval via Vertex AI Vector Search and Google Chat integration through Cloud Functions.
- Architected a voice- and text-enabled automotive AI assistant using LangChain, LangGraph, and LLMs, with modular pipelines on Azure Databricks and MLflow, RAG grounded in company knowledge, voice transcription, text-to-speech, and serverless APIs via Azure Functions.

**Data Scientist**, Amaris Consulting — São Paulo, SP, Brazil Nov 2022 – Jan 2025

- Guided organizations including Renault Group in leveraging data science for business growth, solving forecasting (sales and stock projections) and anomaly-detection problems with supervised and unsupervised approaches.
- Improved material-forecasting accuracy to optimize after-sales planning and stock storage; reduced automotive warranty costs by identifying cost concentrations through anomaly detection.
- Delivered a full MLOps NLP pipeline to classify homologation-sheet impacts using PyTorch and Hugging Face on GCP and Vertex AI.

**Data Scientist**, PhoneTrack / Intelia — Curitiba, PR, Brazil Jan 2021 – Nov 2022

- Designed and built machine learning models for a speech-analytics product, including Speech Emotion Recognition, Audio Classification, and Voice Activity Detection.
- Performed exploratory data analysis, feature engineering, and model deployment integrated into the call-tracking platform using Keras, TensorFlow, MLflow, Docker, BigQuery, and GCP tools.

**Scientific Scholarship Holder (CNPq)**, UFMS — Federal University of Mato Grosso do Sul — Campo Grande, MS, Brazil Aug 2018 – Aug 2019

- Conducted research on convolutional neural networks applied to plant leaf counting under Dr. Wesley Nunes Gonçalves — work that became a peer-reviewed publication (WVC 2019).

## EDUCATION

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- PhD in Artificial Intelligence**, UTFPR (Federal University of Technology – Paraná) & University of Toronto 2025 – Present  
Joint research exchange program · Scholarship Holder, International Exchange Program. Research: Visual Sentiment Analysis, Multimodal LLMs, Computational Social Systems.
- M.Sc. in Electrical Engineering & Industrial Informatics**, UTFPR, Curitiba, PR, Brazil 2023 – 2025  
Research: Multimodal LLMs, Visual Sentiment Analysis, Computational Social Systems.
- B.Sc. in Computer Science**, UFMS — Federal University of Mato Grosso do Sul, Campo Grande, MS, Brazil 2018 – 2021

## PUBLICATIONS

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- Analyzing Persona Effects in Generated Explanations from Multimodal LLM Agents in Urban Perception.** da Silva, Delgado, Minetto, Silver & Silva. *arXiv preprint*, 2026.
- Stable Behavior, Limited Variation: Persona Validity in LLM Agents for Urban Sentiment Perception.** da Silva, Minetto, Silver & Silva. *IEEE DCOSS-IoT (UrbCom)*, Reykjavik, 2026.
- Multimodal Large Language Models (MLLMs): From Theory to Practice.** da Silva, Scholz, Harrison, Borges, Ávila, Santos, Delgado, Minetto & Silva. *Book chapter, Webmedia*, 2026.
- Multimodal LLMs See Sentiment.** da Silva, Harrison, Minetto, Delgado, Nassu & Silva. *arXiv preprint*, 2025.
- A Convolutional Neural Network Approach for Counting and Geolocating Citrus-Trees in UAV Multispectral Imagery.** Osco, Arruda, Marcato, da Silva, et al.. *ISPRS Journal of Photogrammetry and Remote Sensing*, Vol. 160, pp. 97–106, 2020.
- Regression in Convolutional Neural Networks Applied to Plant Leaf Counting.** da Silva & Gonçalves. *Workshop de Visão Computacional (WVC)*, 2019.

## SELECTED OPEN-SOURCE PROJECTS

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- mllm-persona-evaluation** — Official implementation of the persona-validity research for LLM agents in urban sentiment perception (Python).
- MLLMs-Teoria-e-Pratica** — Theory and hands-on practice of Multimodal LLMs with annotated Jupyter notebooks; companion to the Webmedia 2026 book chapter.
- case-study-data-science** — Data science case studies covering regression, classification, clustering, and NLP workflows (236+ GitHub stars).
- regression-in-CNNs-applied-to-plant-leaf-count** — CNN regression behind the WVC 2019 publication (198+ GitHub stars).

## TECHNICAL SKILLS

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- Focus Areas:** Multimodal LLMs (MLLMs), LLMs & Generative AI, Retrieval-Augmented Generation (RAG), Conversational AI Agents, NLP, Computer Vision, Speech & Audio Analytics
- Programming:** Python, TypeScript, SQL, C++, Shell Script
- AI/ML Frameworks:** PyTorch, TensorFlow, Keras, Hugging Face, Scikit-learn, OpenCV, Streamlit
- LLM & Agent Tooling:** LangChain, LangGraph, Google ADK
- Cloud & MLOps:** GCP (Vertex AI, Cloud Run, Cloud Functions, BigQuery, GKE, Dataplex), Azure Databricks, MLflow, Kedro, Docker
- Languages:** Portuguese (Native), English (Fluent), Spanish (Elementary)