Luan Matheus Trindade Dalmazo

Data Analyst and Machine Learning Researcher
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Interests	Machine Learning; Transformers; Artificial Intelligence; Robotics; Deep Learning; New learnings about computing.
Education	Federal University of Paraná - Biomedical Informatics. (2021 - Present).
	Technical professional secondary education: System Analysis and Development. Senai Pinhais. (2018 - 2019).
Skills Technology	Transformers, Deep Learning, Machine Learning, OpenCV, PostgreSQL, Java, Python, C and Git.
Professional Experience	Researcher. *Munai* Researcher in Machine Learning technologies applied to the healthcare domain, contributing to the development of innovative solutions, statistical analyses (including correlation methods and significance testing using p-values), and the writing of scientific papers for conferences and journals. Key tools and skills include Python, Git, Transformers, neural networks, and model fine-tuning. (2024 - Present).
	Researcher. *National Education and Research Network (RNP)* Researcher in the field of Identity Management and Security. Developed solutions using Python (Django) and the djangosaml2 library, with Git for version control. Worked within a SCRUM-based development process. Also contributed to the writing of scientific materials for conferences focused on security and identity management. (2023 - 2024).
	Machine Learning Researcher. *MITACS - University of Alberta (Internship)* Researcher in image segmentation, responsible for developing and evaluating algorithms using 3D Slicer, nnU-Net, and Python. Work was conducted in high-performance computing environments, including Compute Canada, to handle large-scale medical imaging data. (2024/06 - 2024/08).
	Software Developer. *Center for Scientific Computing and Open Source (C3SL)* Web development using Ruby on Rails, PostgreSQL, Sidekiq, Redis, React, and Node.js technologies. Created monitoring scripts for an educational resources platform. Used Git for version control. Contributed to the Integrated MEC Red Platform project, actively participating in the development of a priority queue algorithm for content curation. (2022 - 2023).

Courses & Trainings	Container Management with Docker, Escola Superior de Redes. Complete C Programming Course - C Language for Students. Curso WEB Moderno Completo com JavaScript 2021 + Projetos (Complete Modern WEB Course with JavaScript 2021 + Projects).
Notable Projects	Domestic Robot for Older Adults Scientific research focused on the development of a service robot designed to support older adults. The robot includes functionalities such as human interaction, weather forecast queries, reminder retrieval, and environment mapping. Key technologies and concepts involved include ROS2, SLAM, Large Language Models (LLMs), agents, LangChain, and language model evaluation. (2023 - Present). Tooth Segmentation Research and development of a pipeline for tooth segmentation based on a dataset of cone-beam computed tomography (CBCT) images in collaboration with the University of São Paulo (USP). The project involves the use of machine learning algorithms, image processing techniques, and performance evaluation of segmentation models. (2024 - Present). Spectrograms classification Classification of spectrograms using transformer-based models to identify speech disorders associated with malocclusion. This research is conducted in collaboration with the University of Alberta and the Mike Petryk School of Dentistry. (2024 - Present). RAG application for question answering Development of a RAG-based pipeline for answering questions related to various PubMed articles. (2025). More projects are available on my Personal Page.
Idioms	English - Advanced.
Notable publications	Content evaluation and gamification for educational platforms. In Proceedings of the 16th International Conference on Theory and Practice of Electronic Governance (ICE-GOV '23). Association for Computing Machinery, New York, NY, USA, 379–382. `https://doi.org/10.1145/3614321.3614372`. Analysis of Dynamic PD Control Performance Compared to Standard PD in Track Follower Vehicle. In Proceedings of the 2023 Latin American Robotics Symposium (LARS), 2023 Brazilian Symposium on Robotics (SBR), and 2023 Workshop on Robotics in Education (WRE). IEEE, 591–596. `https://doi.org/10.1109/LARS/SBR/WRE59448.2023.10333038` Final Stroke Infarct Segmentation Using Deep Neural Networks. In Image Analysis in Stroke Diagnosis and Interventions: MICCAI Challenge on Ischemic Stroke Lesion Segmentation. Springer Nature Switzerland, Cham, 95–99. `https://doi.org/10.1007/978-3-031-81101-2_11` Classificação de Aves Predadoras: Fine-tuning Progressivo em Redes Neurais Convolucionais. (Birds of Prey Classification: Progressive Fine-Tuning in Convolutional Neural Networks). In Proceedings of Computer on the Beach 2025. Itajaí, Brazil. `https://doi.org/10.14210/cotb.v16.p016-022` More publications are available on my Personal Page.