



Gabriel de Jesus, PhD

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ABOUT MYSELF

PhD in Informatics Engineering from the Faculty of Engineering, University of Porto (FEUP), Portugal, with strong expertise in digital governance, information systems, and technology-driven development. Affiliated researcher at INESC TEC (Porto, Portugal) and creator of **Labadain**, a suite of algorithms, tools, and linguistic resources for Tetun.

Over 10 years of professional experience across public sector institutions and international development programs. Proven track record in leadership, strategic planning, and implementation of information systems. Professional experience includes serving as Non-Executive Board Member at the National Communications Authority (ANC), IT and Administration Coordinator at the Major Project Secretariat/Infrastructure Fund, and HRIS Manager for the USAID HRH2030 Program in Timor-Leste.

EDUCATION & TRAINING

13/09/2021 - 01/09/2025 Porto, Portugal

Doctor of Philosophy Faculty of Engineering, University of Porto (FEUP)

Website: <https://www.fe.up.pt/> **Field(s) of study:** Informatics Engineering (Information retrieval) |

Thesis: Text Information Retrieval in Tetun (<https://hdl.handle.net/10216/169208>)

13/09/2011 - 09/07/2013 Porto, Portugal

Master Degree Faculty of Science, University of Porto (FCUP)

Website: <https://www.fc.up.pt/> **Field(s) of study:** Computer Science | **Thesis:** Relatórios e Análise de

Tendências de Rede Social Desportiva Playnify (<https://hdl.handle.net/10216/103895>)

15/09/2005 - 17/07/2008 Dili, Timor-Leste

Bachelor Degree Fundação das Universidades Portuguesas, Universidade Nacional Timor Lorosa'e (FUP/UNTLL)

Website: <https://www.fup.pt/> **Field(s) of study:** Informatics Engineering | **Thesis:** Software para a gestão dos combatentes da libertação nacional

WORK EXPERIENCE

INESC TEC Porto, Portugal

Email: gabriel.jesus@inesctec.pt | **Website:** <https://www.inesctec.pt>

Affiliated Researcher

29/09/2021 - Current

Investigate and develop language technologies for Tetun to advance digital inclusion and equitable access to information, supporting Tetun-speaking communities through information retrieval, artificial intelligence, and natural language processing tools and language resources.

Timor News Dili, Timor-Leste

Email: gabriel.dejesus@timornews.tl | **Website:** <https://www.timornews.tl>

Founder

07/05/2019 - Current

Responsible for developing strategic plans and implementing standard business procedures to achieve long-term objectives, including overseeing and guiding the team to ensure that the company's goals are met.

Chemonics International (USAID-funded project) Dili, Timor-Leste

Website: <https://www.chemonics.com>

Human Resource Information System Manager

01/07/2019 - 04/02/2021

My roles included conducting a feasibility study, developing functional requirements for the Training Management Information System (TMIS), and customizing the iHRIS Train toolkit to



meet those needs. To ensure optimal performance, I specified the requirements for an on-premise server, purchased and configured it, and used it to host the TMIS web-based system. I also prepared comprehensive user and system administrator manuals for the TMIS, including conducting formal training sessions.

● **Autoridade Nacional de Comunicações (ANC)** Dili, Timor-Leste

Website: <http://www.anc.tl>

Non-Executive Board Member

18/12/2018 - 30/09/2021

My responsibilities were defined under Article 8 of the Telecommunications Decree-Law no. 15/2012, dated March 28, 2012. In this capacity, I contributed to governance and strategic oversight of the telecommunications sector, participated in regulatory decision-making, and supported the development and enforcement of policies that promoted compliance and fair competition.

● **Food and Agriculture Organization (FAO)** Dili, Timor-Leste

Website: <https://www.fao.org/timor-leste/en>

Database Design and Implementation Expert Consultant

05/11/2018 - 30/03/2019

My roles included ensuring quality and compliance of the Suco Level Food Security Monitoring System (SLMS) development agreement, while advising the Ministry of Agriculture and Fisheries (MAF) on the SLMS workflow. Additionally, I provided training and support to end-users to ensure the successful implementation of the system.

● **Inovar4 Lda** Dili, Timor-Leste

Website: <https://inovar4.com>

Information Technology Manager

02/10/2017 - 30/11/2018

My responsibilities included overseeing the networking and server infrastructure of several companies. This included upgrading servers and migrating data, as well as providing technical guidance and support to other technicians.

● **Major Project Secretariat (MPS)/Infrastructure Fund (IF)** Dili, Timor-Leste

Coordinator of the Administration and Information Technology (IT) Directorate

04/01/2014 - 30/09/2017

I served as the head of the IT and Administration Directorate, overseeing the Department of Administration & Human Resources and the Department of Procurement, Logistics, IT, and Databases. In this role, I planned, managed, and supervised the IT infrastructure, information systems, administration, human resources, procurement, budget planning, logistics, and document management to ensure efficient and effective operations.

● **Quidgest Lda** Dili, Timor-Leste

Website: <https://quidgest.tl>

Software Developer and Project Manager

06/08/2013 - 31/12/2013

I managed and developed information systems projects, ensuring the timely delivery of software developed by the company. In addition, I provided technical support and training to the end-users of the company's clients and ensured the effective implementation and maintenance of the software.

● **Timor Telecom** Dili, Timor-Leste

Website: <https://www.timortelecom.tl>

Senior Database Administrator

01/09/2009 - 31/08/2011

I managed and administered the mediation and billing databases, which included the integrated customer management system, NGIN (Next-Generation Intelligence Network), and the post-paid mobile and internet services provider. In this role, I addressed fraud issues and collaborated with the marketing team, developing new applications for the company.

● **Quidgest Lda** Dili, Timor-Leste

Website: <https://quidgest.tl>

Software Developer

07/07/2008 - 31/08/2009

My responsibilities included software and database development, implementation, and maintenance. I also provided support and training to end-users to ensure efficient use of the software.



PUBLICATIONS

2026

[Labadain Chat: A Conversational Agent for the Tetun Language](#)

This study presents Labadain Chat, a conversational agent for Tetun that adapts existing LLMs using language-specific prompting strategies and details its architecture, features, applications, and values for the Tetun-speaking community.

Authors: Gabriel de Jesus, Sérgio Nunes | **Journal Name:** 49th International ACM SIGIR Conference on Research and Development in Information Retrieval | **Publisher:** ACM

2025

[Zero-Shot and Hybrid Strategies for Tetun Ad-Hoc Text Retrieval](#)

This work explores zero-shot dense and hybrid retrieval methods for Tetun, highlighting the effectiveness of combining pretrained models with LLM-enhanced document representations.

Authors: Gabriel de Jesus, Siddharth A.K. Singh, Sérgio Nunes, Andrew Yates | **Journal Name:** Conference on Innovative Concepts and Theories in Information Retrieval (ICTIR) | **Volume, Issue and Pages:** p 264–274 | **Publisher:** ACM

2025

[Insights into LLM-Based Conversational Search: A Study of Tetun-Speaking Users' Search Behavior](#)

This paper analyzes real-world prompt logs from an LLM-based conversational assistant for Tetun speakers and introduces LabadainLog-17k+, a new dataset for conversational search in Tetun.

Authors: Gabriel de Jesus, Sérgio Nunes | **Journal Name:** Conference on Innovative Concepts and Theories in Information Retrieval (ICTIR) | **Volume, Issue and Pages:** p 297–306 | **Publisher:** ACM

2024

[Exploring Large Language Models for Relevance Judgments in Tetun](#)

This paper examines the use of large language models to automate relevance judgments in Tetun, showing agreement levels comparable to human assessors and to results reported for high-resource languages.

Authors: Gabriel de Jesus, Sérgio Nunes | **Journal Name:** First Workshop on Large Language Models for Evaluation in Information Retrieval | **Volume, Issue and Pages:** Vol. 375, p 19–30 | **Publisher:** CEUR-WS.org

2024

[Data Collection Pipeline for Low-Resource Languages: A Case Study on Constructing a Tetun Text Corpus](#)

This paper introduces Labadain Crawler, a web-based pipeline for building text corpora in low-resource languages, and demonstrates its effectiveness by constructing a high-quality Tetun text corpus.

Authors: Gabriel de Jesus, Sérgio Nunes | **Journal Name:** Joint Int. Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING) | **Volume, Issue and Pages:** p 4368–4380 | **Publisher:** ELRA Language Resource Association

2024

[Labadain-30k+: A monolingual Tetun document-level audited dataset](#)

This paper presents Labadain-30k+, a Tetun text dataset comprising 33.6k documents manually audited at the document level, alongside a content analysis that highlights the evolution of web documents and emerging trends in written Tetun.

Authors: Gabriel de Jesus, Sérgio Nunes | **Volume, Issue and Pages:** p 177–188 | **Publisher:** ELRA Language Resource Association

PROJECTS

18/01/2024 - Current

[Labadain Chat](#)

An AI assistant designed to support access in Tetun, accessible at <https://www.labadain.com/>

07/01/2024 - 01/09/2025

[Labadain Search](#)

The first search engine for the Tetun language, accessible at <https://search.labadain.com/>

07/05/2019 - Current

[Timor News](#)

An online news portal dedicated exclusively to publishing news in Tetun, accessible at <https://www.labadain.com/>



CERTIFICATIONS

Coursea, 22/08/2025

● Retrieval Augmented Generation

This course covers how to design and build RAG systems tailored to real-world needs, providing a foundational framework for adapting these systems as new tools and methods emerge. It also explores how to evaluate trade-offs between cost, speed, and quality in order to select the most appropriate techniques for each component of a RAG system.

Mode of Learning Online

Link <https://www.coursera.org/account/accomplishments/verify/NJJ7LIZHYHWQ>

Coursea, 23/02/2023

● Machine Learning Specialization

This course covers building and training supervised models for prediction and binary classification tasks, applying best practices for machine learning development, and using unsupervised learning techniques. It also includes building and training neural networks for multi-class classification and recommender systems using both collaborative filtering and content-based deep learning approaches.

Mode of Learning Online

Link <https://www.coursera.org/account/accomplishments/specialization/PX7PT8Q4JYJ5>

Asian Institute of Technology, 16/06/2017

● Situational Leadership Training

This training covers directive and supportive behaviors adapted to different situations, including communication skills, goal setting, and performance management, as well as conflict resolution and problem-solving.

Mode of Learning Presential