# Erick Francisco Merino Menares

Computer Engineer

Maipú, Santiago de Chile | erickfmm@gmail.com | 9 6183 0057 | erickfmm.github.io | erickfmm

huggingface.co/erickfmm

## Summary

Graduated in Computer Science with a specialization in databases, passionate about research, education, development, programming languages, and Artificial Intelligence.

Focused on Project Management, AI-powered Back-End Development, and Data Analysis with Python.

Constantly learning and eager to expand capabilities.

## Education

**Universidad de Valparaíso**, Data Science — Valparaíso, Chile
**Postgraduate Diploma** — Jan 2023
Duration 6 months.
- Graduated with High Distinction (6.1)

**Universidad de Valparaíso**, Computer Engineering — Valparaíso, Chile
**Computer Engineer** — Apr 2019
Specialization in Database Management and Design.
- Graduated with High Distinction (6.22)

## Experience

**Ministry of Education (MINEDUC)**, Innovation Center Professional — Santiago, Chile
July 2022 – present
3 years 8 months
- Maintenance and web development for the Data Standards Verification System for Education (Digital Class Book).
- Collaborated in the Data Governance Team for the Quality Assurance System (TOGAF and DAMA). Created Process and System Maps in Archimate.
- Software Project Management from proposal drafting and requirements analysis to weekly follow-ups and milestone verification.
- Built proof-of-concept tools using AI models (LLM, RAG, BERT, T5, and others).

**Universidad de Valparaíso**, Research Assistant — Valparaíso, Chile
May 2016 – Dec 2018
2 years 8 months

Contributed to a Multimodal Learning Analytics tool using Kinectv2.
- Continuous posture classification.
- Speaker recognition.
- Distance tracking per person.

**AltaVoz**, Intern (First Internship) — Viña del Mar, Chile
Jan 2016 – Feb 2016
2 months
- Developed a sample application in CMS Prontus.
- Redesigned the web interface of the project administrator.
- Programmed the Front-End master template (HTML, CSS, JS) for a new MailCenter version.

**Universidad de Valparaíso**, Intern (Second Internship) — Valparaíso, Chile
Jan 2018 – Feb 2018
2 months
- Contributed to publications: Mathematics Learning through Computational Thinking…, Using Black Hole Algorithm…, and Development of a software that supports multi-modal….

**Universidad de Valparaíso**, STEM Teaching Assistant

Provided support for teaching activities.

Valparaíso, Chile
Mar 2017 – July 2017
5 months

## Projects

**Frankenstein Transformer**

Python library and config-driven CLI to train experimental Transformer architectures (Mixture of Experts, BitNet 1.58, Titan Memory) via YAML/JSON files.

- More than 30 attention mixers, several norms, more than 20 optimizers, and others
- Interactive Config Builder available at erickfmm.github.io/frankenstein-transformer
- Published on PyPI: frankenstein-transformer, dashai-frankenstein

**DashAI Frankenstein**

Frankenstein Transformer plugin for DashAI, integrating experimental Transformer architectures into the DashAI ecosystem.

- In development
- Published on PyPI: dashai-frankenstein

**ANMetaL**

Library of metaheuristics and numerical optimization with advanced visualizations (PSO, DE, CMA-ES, Black Hole, and more).

- Live demo at erickfmm.github.io/anmetal
- JavaScript/TypeScript port in progress (anmetal-js)
- Published on PyPI: anmetal

**Awesome NLP / LLM in Spanish**

Curated list of resources, datasets, models, and courses for NLP and LLM in Spanish.

**Markdown to Audio**

Converts Markdown books into multi-chapter audiobooks using Spanish TTS engines.

**Translate & Process Datasets**

Scripts to translate, filter, and prepare datasets for publication on Hugging Face.

**Autogenerator of PPT**

Automatic generator of educational presentations from YAML (pptx and PDF).

## Skills

Programming Languages: Python (Advanced), C#, JavaScript

Databases: PostgreSQL, MongoDB, Qdrant

Frameworks and Libraries (Python): Django, FastAPI, Flask, Scikit-Learn, SciPy, Matplotlib, Seaborn, spaCy, Keras, LangChain, Pydantic, Transformers, Sentence-Transformers

Tools: Docker, Tableau, Google Looker, PowerBI, OpenMetaData, Gephi

## Courses

Modern Natural Language Processing in Python (Udemy, 2026, 10 hours)

Microservices: How to Migrate from Monoliths to Microservices (Udemy, 2025, 2 hours)

Design, Management and Evaluation of Public Projects (Buena Práctica Consultores Ltda., 2024, 30 hours)

Data Mesh - quick intro for complete beginners (Udemy, 2024, 2.5 hours)

Introduction to Complexity (Complexity Explorer, 2014)

## Journal Papers

**Development of a Software that Supports Multimodal Learning Analytics: A Case Study on Oral Presentations** Jan 2018
*Journal of Universal Computer Science*, Jan 2018

**Mathematics Learning through Computational Thinking Activities: A Systematic Literature Review** Jan 2018
*Journal of Universal Computer Science*, Jan 2018

**Using Black Hole Algorithm to Improve EEG-Based Emotion Recognition** Jan 2018
*Computational Intelligence and Neuroscience*, Jan 2018

**Exploring Collaborative Writing of User Stories with Multimodal Learning Analytics: A Case Study on a Software Engineering Course** Jan 2018
*IEEE Access*, Jan 2018

**A new EEG software that supports emotion recognition by using an autonomous approach** Jan 2020
*Neural Computing and Applications*, Jan 2020

## Conference Papers

**Evolução das posturas corporais de estudantes em apresentações de seminários ao longo do semestre: uma análise utilizando dados multimodais e técnicas de clusterização** Jan 2018
*Brazilian Symposium on Computers in Education*, Jan 2018

**Using Multimodal Data to Find Patterns in Student Presentations** Jan 2019
*LACLO 2018*, Jan 2019

**Developing a Dashboard to Support the Analysis of Multimodal Educational Data** Jan 2018
*Congreso Chileno de TICS para la Educación*, Jan 2018