



# Luis Vitor Zerkowski

## INFORMATION AND CONTACT

✉️ luisvz <at> gmail <dot> com

🏳️ Brazilian, Swiss and German

🌐 [Luizerko.github.io](https://Luizerko.github.io)

Ⓜ️ [medium.com/@luisvz](https://medium.com/@luisvz)

linkedin.com/in/luis-vitor-zerkowski-93a3471b4/

github.com/Luizerko

scholar.google.com/citations?user=RhlQ-x0AAAAJ

## PROFILE

**BSc in Computer Science** and **MSc in Artificial Intelligence** with **3+ years** of work experience in Machine Learning. Specialized in Computer Vision, Visualization and Interdisciplinary AI. Seeking positions in **Research** to dive deep into unanswered questions and develop prototypes that help shape future real-world applications.

On another note, I'm also a math enthusiast, occasional writer, love teamwork and strongly believe in the potential of knowledge when shared.

## EDUCATION

### MSc in Artificial Intelligence, University of Amsterdam

Sep 2023 - Jan 2026

### Invited Visiting Student, ETH Zürich

Sep 2021 - Jul 2022

- Bachelor Thesis Student at the Computer Vision Lab

### BSc in Computer Science, University of São Paulo

Jan 2019 - July 2023

## PUBLICATIONS

- [Uncovering Latent Connections in Indigenous Heritage: Semantic Pipelines for Cultural Preservation in Brazil](#)
- [Invisible Strings: Revealing Latent Dancer-to-Dancer Interactions with Graph Neural Networks](#) - ICCC'25
- [Dyads: Artist-Centric, AI-Generated Dance Duets](#)
- [Position Paper on Dataset Engineering to Accelerate Science](#) - AAAI-23

## SKILLS

### Programming Languages

- Python
- C/C++
- Rust
- Bash
- JavaScript

### Machine Learning Frameworks

- PyTorch, Tensorflow, PyTorch Geometric, Hugging Face, scikit-learn
- TensorRT, NVIDIA DALI
- OpenCV, NLTK
- Matplotlib, Seaborn, Plotly, Bokeh

### Tools and Infrastructure

- Git, Docker, SLURM
- GCP, AWS, Azure

### Others

- NumPy, Pandas, SciPy
- SQL
- Dash, Flask, Node.js
- Folium-Leaflet

### Spoken Languages

- Native Portuguese
- Fluent English (C2)
- Basic Spanish (A2)
- Basic German (A2)

## CERTIFICATIONS

- [Getting Started with Tensorflow 2](#) - Imperial College London (2021)
- [Applied Text Mining in Python](#) - University of Michigan (2021)
- [Machine Learning: Clustering and Retrieval](#) - University of Washington (2021)
- [Machine Learning](#) - Stanford University (2021)

# WORK EXPERIENCE

## Algorithms Developer, arqgen, Aug 2025 - Nov 2025

- Developed a topography pipeline for 3D mesh construction and analysis. Also modeled and optimized land movement on the mesh.  
Finally, worked on optimizations for the company's building positioning pipeline.
- Computational Geometry, Computer Graphics, Optimization, Algorithms and Data Structures, Genetic Algorithms

## Contract AI Engineer, SENAI CIMATEC University, Apr 2025 - July 2025

- Worked on an OCR+LLM pipeline to automate analysis of past exams from Brazil's national engineering exam and generate new questions. Also designed and curated some questions for the university's internal computer-engineering assessment using the tool I developed.
- Data Mining, Text Parsing, Optical Character Recognition, LLMs, Front-End Development, Open Source

## Master Thesis Intern, National Museum of Indigenous People, Nov 2024 - Aug 2025

- Developed an ML pipeline, from data mining and model training to app deployment, to power an interactive visual tool for the national indigenous collection of objects and iconographies. It enables exploration of the archive from an AI-assisted POV.
- Data Mining, 2D Computer Vision, Visual Transformers, Text Transformers, Contrastive Learning, Clustering, Visualization, Front-End Development, Archive Management, Open Source

## Open Source Contributor, Google Summer of Code with HumanAI Foundation, Mai 2024 - Sep 2024

- Worked on a project at the intersection of machine learning and art, developing a GNN-based VAE architecture to predict and study subtle connections in dance duets partnering.
- 2D & 3D Computer Vision, Signal Processing, Neural Network Architecture Design, VAEs, GNNs, RNNs, Open Source

## Summer Intern, CERN, Jul 2023 - Aug 2023

- Worked as a software engineer on creating an application to migrate videos from CERN Document Server to CERN's new official institutional multimedia repository.
- Archive Management and Preservation, Front-End and Back-End Development, Open Source

## Research Intern, IBM Research, Aug 2022 - Nov 2022

- Worked with RDKit, PubChem's data, molecule fingerprints (CID, SMILES, CACTVS), and molecule descriptors (Mordred, PaDEL) to accelerate molecule screening via clustering.
- Computational Chemistry, Clustering, Visualization

## Bachelor Thesis Intern, Computer Vision Lab ETH with Aegis Rider, Sep 2021 - Jul 2022

- Developed my bachelor thesis in video summarization for motorcycle rides using attention mechanisms and a segment suggestion multi-head neural network. Also worked on building cloud infrastructure to integrate my project into Aegis Rider's app.
- Dataset Creation, Signal Processing, 2D Computer Vision, CNNs, Attention Mechanism, Multimodality, Cloud

## Undergraduate Researcher, Institute of Mathematics and Statistics of USP, Jan 2020 - Aug 2021

- Worked on an agent that learnt how to play *tic-tac-toe* with formal mathematical and logical backgrounds.
- Theoretical Machine Learning, PAC-Learning, VC Dimensions, Statistical Learning

## Summer Intern, Big Data, Dec 2020 - Apr 2021

- Developed a project to compute influence areas for gas stations in São Paulo based on oil companies' geo-location and sales data, studying its impact on the local market and evaluating oil companies' plans on the location of a new gas station.
- Geo-Data Analysis, Signal Processing, Time Series Analysis, Clustering, Front-End Development