

## Professional Summary

Machine Learning Engineer and Researcher with 10+ years of software development experience and 6+ years specializing in NLP and Machine Learning. I combine strong academic background (PhD in Computer Science) with practical experience in Generative AI solutions and Software Engineering.

## Professional Experience

### Machine Learning Engineer

Aug 2024-present

#### ACCENTURE

- Currently working in Text2SQL project, using state-of-the-art LLM models and Knowledge Graphs for an internal project.
- Designed and implemented agentic workflow for the project.
- Designed and implemented evaluation pipeline for the text2sql task using *langfuse*.
- Lead the development of internal Python libraries for text2sql agentic workflows.
- Worked on ETL process against PowerBI dashboards.

**Skills and Tools:** Python, GCP, LLM, Gemini, Neo4J, LLMOps, Azure DevOps.

### Postdoctoral Researcher

2022-2024

#### INSTITUTO DE CIENCIAS DE LA COMPUTACIÓN (ICC), UBA-CONICET

- Research in natural language processing and hate speech detection in social media.
- Development of ML models for text analysis and automatic classification.
- Publication of papers in international conferences and specialized journals.
- Supervisors: María Vanina Martínez and Laura Alonso Alemany.

**Skills and Tools:** Python, PyTorch, scikit-learn, spaCy, Hugging Face, NLP, Machine Learning.

### Data Scientist

2020-present

#### TOPTAL & FREELANCE

- NLP solutions and proof-of-concepts focused on natural language processing techniques as part of technology transfer and linkage projects as a consultant within CONICET, and also independently.
- Developed a Proof of Concept (PoC) for utilizing large language models in virtual assistants, using vector databases and OpenAI services.
- Developed a PoC for a legal tech startup automating contract analysis. Used custom NER models, knowledge graphs, and semantic search.
- Collaborated with researchers and NGOs to analyze surveys and focus groups in African countries, using advanced NLP techniques to extract insights from unstructured text.
- Collaborated on social media data analysis for public opinion research companies using sentiment mining techniques.

**Skills and Tools:** NLP, Python, PyTorch, spaCy, Hugging Face stack, ChatGPT, Streamlit, Faiss, ElasticSearch.

### Doctoral Fellow

2016-2022

#### INSTITUTO DE CIENCIAS DE LA COMPUTACIÓN (ICC), UBA-CONICET

- Conducted research on hate speech detection techniques and resources in social media.
- Developed machine learning models for text classification and natural language processing.
- Published research papers and presented at international conferences.
- Supervisors: Franco Luque and Agustín Gravano.

**Skills and Tools:** Python, Machine Learning, NLP, PyTorch, scikit-learn, Research.

### Software Engineer

August 2014 - April 2016

#### ALTOROS

- Contributed as backend developer to deliver MVPs for various startup projects. Notable projects included:
  - LawAdvisor*: A platform connecting users with legal advice.
  - CattleMatch*: System for digitalization of the cattle industry, from livestock auctions to simple stock management.
  - T4 Spatial*: GIS data integration for sewer CCTV inspection.
- Participated in architectural design of solutions, implementation, and project management using Agile methodologies.

**Skills and Tools:** Ruby, Ruby on Rails, JavaScript, Backbone.js, PostgreSQL, AWS, Agile.

### Software Engineer

February 2013 - August 2014

#### DEVARTIS

- Participated in (and led in some cases) the development of multiple projects:
  - Avalancha*: E-commerce platform for appliances and electronics. We developed this platform from scratch using Spree, Ruby and Rails, and built text-based search using ElasticSearch.
  - Quilmes*: Official website for a major beer company, improving brand visibility and customer engagement.
- Besides development, I was responsible for keeping the Scrum process running and also dealt directly with clients.

**Skills and Tools:** Django, Ruby on Rails, Spree, PostgreSQL, RabbitMQ, Sidekiq, AWS.

## Game Developer

April 2010 - December 2011

### METROGAMES

- Contributed to the development of popular Facebook games such as *Fashion World* and *Mall Dreams*.
- Developed iPhone games that ultimately didn't see the light of day.

**Skills and Tools:** ActionScript, Objective-C, MySQL, Facebook API, iPhone SDK.

## Freelance Web Developer

February 2008 - November 2012

### SELF-EMPLOYED

- Developed web solutions for personal clients and small businesses, both locally and abroad.
- Developed three early-stage social networks for clients in Spain (Petuky, Cinemavip, and SigoJoven).

**Skills and Tools:** PHP, Ruby on Rails, jQuery, MySQL, HTML, CSS.

## C++ Developer

February 2005 - May 2007

### 4DATA LINK - CERTALOGIC

- First work (right after High School) as a C++ developer.
- Participated in maintenance and development of a GIS application for electrical network management.
- Refactored many of the abstractions used in the system.

**Skills and Tools:** C++, AutoCAD, Boost, OOP.

# Academic Background

---

## Ph.D. in Computer Science | M.Sc. in Computer Science

2016, 2022

### UNIVERSIDAD DE BUENOS AIRES

- Ph.D. Thesis: "Techniques and resources for hate speech detection in social networks" (2022)
- M.Sc. Thesis: "Metrics of acoustic-prosodic entrainment in speakers" - GPA: 9.32/10 (2016)
- Research focus: Natural Language Processing, Machine Learning, Computational Social Science

## Universidad de San Andrés & Universidad de Buenos Aires

2013-present

### TEACHING EXPERIENCE

- Adjunct Professor: Natural Language Processing, Supervised Learning, Thesis Seminar (UdeSA, 2022-present)
- Visiting Professor: Introduction to Computational Social Science (UBA Social Sciences, 2023)
- Graduate TA: Numerical Methods, Programming Paradigms, Automata Theory, Introduction to Computer Science (UBA CS, 2016-2021)
- Undergraduate TA: Automata Theory, Numerical Methods (UBA CS, 2013-2014)

## Publications, Funding & Academic Service

### RESEARCH HIGHLIGHTS

- 15+ peer-reviewed publications in NLP, ML, and Computational Social Science
- Funding: EU Horizon Europe project (2023-2026), CONICET fellowships, Google & OpenAI Research grants credits
- Supervising 5+ graduate students. Program Chair ASAI 2023. Technology transfer partnerships
- Faculty Council member UBA (2018-2022). Reviewer for EACL and international conferences