

# Alex R. Atrio, PhD

Senior Scientist | LLM Specialist | AI Project Lead



✉ Email: alexratrio@gmail.com  
☎ Phone: +39 344 524 0663  
🐙 GitHub: github.com/alexRAtrio  
🌐 LinkedIn: linkedin.com/in/alexratrio  
🌐 Website: alexratrio.github.io  
🗣 Languages: English, French, Spanish, Catalan, Italian

## Summary

- PhD in Natural Language Processing (EPFL)
- Leading €1M ESA project (**EVE**): open-source LLM for Earth Observation
- 6+ years of experience in **NLP/AI research and applied projects**
- Strong specialization in **LLMs**: pretraining, fine-tuning, alignment, and RAG
- **Project management**: budgeting, mentoring team of 5, stakeholder coordination
- Prolific **scientific publishing**: EACL, EAMT, etc.
- Track record in **grant success**: EuroHPC, Runpod, multiple EU/ESA grants
- **Focus**: domain adaptation, low-resource NLP, and regularization methods

## Skills

**Focus** LLMs · Low-Resource NLP · Machine Translation · Pre-training · Fine-Tuning · RAG  
**Strategy** Scientific Writing · Grant Development · Project Management · Agile  
**Toolkit** PyTorch · Hugging Face · Langchain · Asana · Git · Google Workspace  
**Coding** Python, Prolog,  $\text{\LaTeX}$

## PROFESSIONAL EXPERIENCE

### Pi School

Rome, Italy

*Project lead – Senior Deep Learning Scientist*

2024 - Present

- **Project lead** for **EVE**: Managing an 18-month, €1M project to develop an open-source LLM for Earth Observation for **Φ-lab**, the innovation lab at the European Space Agency:
  - \* **Technical responsibilities**: overall technical direction, decision-making, research on SOTA.
  - \* **LLM key areas**: data processing, continued pre-training, instruction fine-tuning, alignment, retrieval-augmented generation.
  - \* **Management responsibilities**: mentoring and guiding 5 engineers, stakeholders discussions, budget oversight.
- Contributor to multiple **winning grant proposals**, including Videoloc (FBK €150k), SatcomLLM (ESA €400k)
- **Project lead** for **Videoloc**: Managing a 12-month, €150k project to optimize automatic subtitle generation based on professional post-editing data for Fondazione Bruno Kessler (**FBK**), a research institute in Italy focused on AI.

### HEIG-VD

Lausanne, Switzerland

*Teaching Assistant*

2019 - 2023

- Final undergraduate NLP courses in French. Guiding students and reviewing laboratory work.

## EDUCATION

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### École Polytechnique Fédérale de Lausanne (EPFL)

Lausanne, Switzerland

*PhD in Natural Language Processing*

2019 - 2023

- Thesis: [Regularization Techniques for Low-Resource Machine Translation](#).
- Supervisor: [Andrei Popescu-Belis](#).
- I also contributed to applied projects with external partners:
  - \* Armasuisse - [UNISUB](#): end-to-end MT optimization through adaptive scheduling of training tasks.
  - \* Armasuisse - [FamilyMT](#): design systems for closely related source languages.
  - \* SNSF Agora - [CRPO](#): development deployment of an interactive poetry generation system.

### University Pompeu Fabra & University of Barcelona

Barcelona, Spain

*Masters in Cognitive Science*

2017 - 2019

- Thesis: [MT Reordering as Preprocessing for Cross-Lingual Sentiment Analysis](#).
- Supervisors: [Toni Badia](#) & [Jeremy Barnes](#).

### University of Barcelona

Barcelona, Spain

*Bachelor in Philosophy*

2012 - 2017

## RESEARCH

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I have published across several areas in NLP. For the full list, please visit my [Google Scholar profile](#).

- [Atrio, À.R.](#), et al. (2023). [A Simplified Training Pipeline for Low-Resource and Unsupervised MT \(LORES 23\)](#)
- [Popescu-Belis, A.](#), [Atrio, À.R.](#), et al. (2023). [GPoeT: a Language Model Trained for Rhyme Generation on Synthetic Data \(LaTeCH-EACL 23\)](#)
- [Atrio, À.R.](#), [Popescu-Belis, A.](#) (2022). [On the Interaction of Regularization Factors in Low-Resource NMT \(EAMT 22\)](#)
- [Atrio, À.R.](#), [Popescu-Belis, A.](#) (2021). [Small Batch Sizes Improve Training of Low-Resource NMT \(ICON 21\)](#)

Additionally, I have served in the Scientific Committee of the [NASA/ESA workshop on AI FM models](#) and [ESA's LPS25](#).

## AWARDS

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### EuroHPC

2025

- Principal Investigator. [Won Grant](#): 3,500 node hours (~€31,000) on the MareNostrum5 supercomputer.

### Runpod

2024

- Principal Investigator. [Won Startup and Research Grant](#): €3,000 in compute credits.

### SEPLN

2019

- First author. Best Paper Award for [Master's thesis](#) - on word order in multilingual sentiment analysis.

## INTERESTS

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- Projects with state-of-the-art technology.
- Open, friendly and agile working environment.
- Development prospects and responsibility.
- Balance between application and scientific research.

## REFERENCES

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### Andrei Popescu-Belis

- Professor of Computer Science, EPFL & HEIG-VD
- andrei DOT popescu DASH belis AT heig-vd.ch
- [iict-space.heig-vd.ch/apu/](https://iict-space.heig-vd.ch/apu/)