



**Alex R. Atrio**  
Senior Deep  
Learning Scientist  
[alexratr.io](https://alexratr.io)

## SOFTWARE

<b>Programming</b>	Python Prolog
<b>Toolkits</b>	Pytorch Tensorflow
<b>Visualization</b>	Matplotlib Pandas
<b>OS</b>	Linux Windows
<b>Misc.</b>	LaTeX Git

## LANGUAGES

<b>English</b>	C2
<b>French</b>	C1
<b>Spanish</b>	Native
<b>Catalan</b>	Native
<b>Italian</b>	A1

# Senior Deep Learning Scientist

FR/ENG/ESP/CAT

Senior Deep Learning Scientist @ Pi School, Rome. PhD graduate from EPFL, I am highly qualified and have extensive expertise in managing collaborative projects in Natural Language Processing (NLP). My experience spans various areas of NLP, from strategy planning, training, optimization to analysis of neural models.

## SKILLS

- ▲ Expertise in NLP / Machine Learning research projects
- ▲ Collaboration on practical projects with clients
- ▲ LLMs and Neural machine translation
- ▲ Writing and synthesis of results, for the publication of scientific articles and presentation at conferences

## PROFESSIONAL EXPERIENCE

- 2024 - ... **Senior Deep Learning Scientist**  
[Pi School](#), Rome (Italy)
- ▲ I am the project lead in [LLM4EO](#), a 15-month, 1M€ project to develop an open-source LLM for Earth observation for [Phi-lab](#), the Earth Observation innovation lab at the [European Space Agency](#).
  - ▲ My work on the project involves project management, and research regarding data gathering, continued pre-training, instruction fine-tuning, alignment, and retrieval augmented generation.
  - ▲ Additionally, I contribute to the development and submission of multiple grant proposals for related projects in the field.
- 2019 - 2023 **PhD student & research assistant**  
Haute École d'Ingénierie et de Gestion du Canton de Vaud & École Polytechnique Fédérale de Lausanne
- ▲ Conduct research in various NLP projects at HEIG-VD, while pursuing a doctorate at EPFL. Management of **responsibilities** between both roles
  - ▲ Supervise the entire **life cycle** of NLP projects: from data collection, definition of architecture and hyperparameters, to evaluation and analysis of neural models
  - ▲ **Python**, with standard machine learning libraries using **PyTorch**
  - ▲ Expertise in the latest **research** in NLP
  - ▲ Engaged in collaborative and multidisciplinary **teams**
  - ▲ Strong **organizational** and **communication** skills, articulating complex ideas in clear terms in NLP projects
- 2020 & 2022 **Teaching assistant**  
Haute École d'Ingénierie et de Gestion du Canton Vaud
- ▲ Two third-year NLP courses in French. Guiding students in class and reviewing regular practical laboratory work.

## CONTACT



Based in Rome, Italy



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[/Àlex R. Atrio](#)



Spanish (EU) nationality

## EDUCATION

2023

### PhD in NLP

École Polytechnique Fédérale de Lausanne (EPFL)

Thesis: Regularization Techniques for Low-Resource Machine Translation

Supervisors: Andrei Popescu-Belis et Jean-Marc Odobez

2018

### Master in Cognitive Sciences

University Pompeu Fabra et University of Barcelona

Thesis: MT Reordering as Preprocessing for Cross-Lingual Sentiment Analysis

Supervisors: Toni Badia et Jeremy Barnes

2016

### Bachelor in Philosophy

University of Barcelona

## SELECTED PUBLICATIONS

I have authored research covering various areas in NLP. For a comprehensive list of my publications, please visit my [homepage](#)

- ▲ **Atrio, À.R.**, Popescu-Belis, A. (2022). *On the Interaction of Regularization Factors in Low-resource Neural Machine Translation* (EAMT 22)
- ▲ **Atrio, À.R.**, Popescu-Belis, A. (2021). *Small Batch Sizes Improve Training of Low-resource Neural MT* (ICON 21)
- ▲ **Atrio, À.R.**, Badia, T., Barnes, J. (2019). *On the Effect of Word Order on Cross-lingual Sentiment Analysis* (SEPLN 19). **Best paper award**

## INTERESTS

Functional and active international team

Projects with state-of-the-art technology

Open, friendly and agile working environment

Development prospects

Continuous learning opportunities

## REFERENCE

### Andrei Popescu-Belis

Professor of computer science at HEIG-VD. Senior scientist at EPFL

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## INDUSTRY-DRIVEN NLP PROJECTS

During my PhD at EPFL, I also collaborated simultaneously on more applied projects with external partners:

2022-2023

### UNISUB – Unsupervised Neural Machine Translation

Armasuisse - Swiss Federal Armaments Office

- ▲ Contribute as a senior team member to the project
- ▲ Focus on end-to-end optimization through adaptive scheduling of training tasks

2020-2021

### FamilyMT – Multilingual Neural MT for Language Families

Armasuisse - Swiss Federal Armaments Office

- ▲ Contribute as a senior team member to the project
- ▲ Design systems for closely related source languages

2019-2020

### Digital Lyric – Computer-assisted Poetic Creation

Swiss National Science Foundation Agora

- ▲ Collaboration and development of an interactive poetry generation system with user-defined constraints
- ▲ Successfully showcased at public events