



Alex R. Atrio

PhD in NLP

Summary

Highly skilled PhD graduate from EPFL with expertise in leading collaborative end-to-end Natural Language Processing projects.

Experienced in a variety of NLP domains. Designing strategies, training, optimizing, analyzing, and evaluating neural models.

Skills

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

Professional Experience

2019 - 2023 Research assistant and PhD in NLP student

Haute École d'Ingénierie et de Gestion du Canton de Vaud & École Polytechnique Fédérale de Lausanne, Switzerland

- Conducted research on various NLP projects at HEIG-VD while pursuing a PhD at EPFL, managing **responsibilities** between roles.
- Led end-to-end Machine Learning/AI projects, specializing in advanced techniques in **Neural Machine Translation** and Neural Text Generation with **Language Models**.
- Oversaw the entire **project life cycle**: from data gathering and cleaning to training Neural models, making architecture and hyper-parameter decisions, considering technical training aspects, and conducting performance evaluation and analysis.
- Extensively used **Python**, with ML/NLP toolkits like **PyTorch**, relevant data processing **tools** such as Pandas, and common visualization tools.
- Expertise with the latest Neural Machine Translation **research** and Neural Text Generation with Language Models, and other parts of NLP.
- Engaged in collaborative **teams** with diverse members, assuming a senior role relative to engineers and reporting to a supervisor.
- Demonstrated strong **organizational** and **communication** skills by articulating complex ideas in clear terms within NLP projects.

2020 & 2022 Teaching Assistant

Haute École d'Ingénierie et de Gestion du Canton de Vaud

- I served as the teaching assistant for two NLP courses (3rd-year bachelor in computer science, conducted in French). Responsibilities encompassed guiding students through in-class queries, as well as reviewing and offering constructive feedback on regular lab exercises.

Selected Publications

- I have authored research papers covering diverse aspects of NLP: for a comprehensive list of 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**.

Contact

Chemin de Sous-Bois, 10

CH-1400 Yverdon-les-Bains

Vaud, Switzerland

alexratrío@gmail.com

+41 (0)76 22 99 508

[/alexratrío.github.io](#)

[/alexratrío](#)

[/Àlex R. Atrio](#)

Education

2019 - 2023

Ph.D. in Natural Language Processing

École Polytechnique Fédérale de Lausanne (EPFL) & HEIG-VD

Thesis: Regularization Techniques for Low-Resource Machine Translation.

Supervisors: Andrei Popescu-Belis & Jean-Marc Odobez.

2017 - 2018

Master in Cognitive Science and Language

University Pompeu Fabra & University of Barcelona, Spain

GPA: 8.2/10

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

2011 - 2016

Bachelor in Philosophy

University of Barcelona

GPA: 7.6/10

Languages

English	Fluent
French	Fluent
Spanish	Native
Catalan	Native
Galician	Fluent

Reference

Andrei Popescu-Belis

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

Address	Route de Cheseaux 1, CH-1401 Yverdon, Switzerland
Email	andrei DOT popescu DASH belis AT heig-vd.ch
Phone	+41 (0)24 557 62 99

Industry-Driven NLP Projects

2022 - 2023

UNISUB - Unsupervised Neural Machine Translation

Contributed as a senior team member to the Armasuisse-funded project, UNISUB. Focused on optimizing end-to-end unsupervised neural machine translation through adaptive scheduling of training tasks

2020 - 2021

FamilyMT - Multilingual Neural MT for Language Families

Contributed as a senior team member to the Armasuisse-funded project, FamilyMT. Played a key role in designing systems for closely related source languages within the same family

2019 - 2020

Digital Lyric - Computer-assisted Poetic Creation

Contributed to an SNSF Agora program-supported project, developing an interactive poem generation system with user-defined constraints. Successfully showcased at public exhibitions

Interests

- Cross-cultural and functional international team
 - Worldwide implementation projects with state-of-the-art technology
 - Exciting tasks in an open, friendly, and agile workenvironment
 - Attractive remuneration and social benefits
 - Good development prospects, extensive training opportunities, and an active global community.