Vladimir ARAUJO
AI and NLP Researcher

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EDUCATION

September 2023 August 2018	**Ph.D. in Engineering Sciences, PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE - KU LEUVEN, Chile - Belgium** 〉 **Field:** Computer Science (Joint Ph.D.) | Supervisors: Dr. Marie-Francine Moens, Dr. Alvaro Soto 〉 **Thesis:** Human-inspired Approaches for Natural Language Understanding (Thesis Award - Nominated)
August 2017 July 2015	**M.Sc. in Electronics Engineering, PONTIFICIA UNIVERSIDAD JAVERIANA, Colombia** 〉 **Field:** Robotics and Machine Learning (Cum laude) 〉 **Thesis:** A Robotic System to Train Working Memory (Best Thesis Award)
May 2015 September 2009	**B.Eng. in Electronics Engineering, UNIVERSIDAD POLITÉCNICA SALESIANA, Ecuador** 〉 **Field:** Automation (Second best graduate) 〉 **Project:** Humanoid robot control in 3D space using Kinect sensor

EXPERIENCE

Present July 2024	**AI Research Scientist, SAILPLANE AI, USA** Working remotely at Sailplane AI, researching and developing agents for software engineering tasks: 〉 Developing LLM-based agents for hierarchical planning. 〉 Implementing pipelines for processing data, and training models, and evaluating them.
Present May 2020	**Lecturer (Occasional), PONTIFICIA UNIVERSIDAD CATÓLICA, Chile** Working remotely as a lecturer of the AI certification program, in charge of the classes of: 〉 Natural Language Processing: Question answering and summarization models. 〉 Introduction to Video Analysis: Video action recognition based on recurrent networks.
June 2024 October 2023	**Postdoctoral Research Associate, ESAT-PSI, KU LEUVEN, Belgium** Worked under the supervision of Dr. Tinne Tuytelaars and Dr. Marie-Francine Moens, researching: 〉 Continual learning with foundation models (language and vision). 〉 Human-inspired continual learning.
December 2023 October 2023	**Natural Language Processing Engineer (Freelance), MULTIPLEX SPA, Chile** Worked remotely at Multiplex startup, improving their nutritionist chatbot (Mynu): 〉 Developing a retrieval augmented generation (RAG) system based on ChatGPT and LlamaIndex. 〉 Implementing a recurrent/memory approach to mitigate extended input constraints in ChatGPT.
September 2023 November 2021	**Ph.D. Researcher, LIIR LAB, KU LEUVEN, Belgium** Worked as part of the CALCULUS project, funded by the European Research Council (ERC), researching: 〉 Human-inspired NLP models based on anticipation and memory. 〉 Representation learning for NLP, both in English and Spanish.
April 2023 June 2022	**Machine Learning Engineer (Freelance), THEODORA AI, Chile** Worked remotely at Theodora AI startup, developing their first algorithm for bias detection: 〉 Implemented an approach to bias detection on texts by leveraging pre-trained language models. 〉 Constructed a synthetic dataset for various biases. Deployed a platform for labeling biased text.
December 2021 July 2021	**Visiting Researcher, UNIVERSITY OF WESTERN ONTARIO, Canada** Worked in the Cognitive Engineering Laboratory under the supervision of Dr. Mercer, researching on: 〉 Construction of SentEval and DiscoEval in Spanish to evaluate Spanish language models. 〉 Improvement of memory networks for story processing and understanding.
December 2021 March 2019	**Teaching Assistant, PONTIFICIA UNIVERSIDAD CATÓLICA, Chile** Supported class laboratories: 〉 Recommender Systems (2021-2, 2020-2): Collaborative filtering and deep learning for RecSys. 〉 Machine Learning (2019-2): Clustering algorithms. 〉 Cognitive Robotics (2019-1): Search algorithms.
July 2021 August 2018	**Ph.D. Researcher, MILLENNIUM INSTITUTE FOUNDATIONAL RESEARCH ON DATA (IMFD), Chile** Worked as part of the "emblematic project on XAI" conducting research on: 〉 Fake news and social networks leveraging attention as a method of interpretation. 〉 Construction of a dataset for controversy based on Chilean social networks.
December 2019 January 2014	**Co-Founder, AV ELECTRONICS, Ecuador** Started an electronic device supply and project development business. In charge of: 〉 Project management: Led the implementation of client solutions based on software and hardware. 〉 Import management: Coordinate the movement of goods from different countries to Ecuador.

Funding and Awards

2022	**Travel grant** to attend the Latin American Meeting in Artificial Intelligence (Khipu23) [amount: ∼2,000 USD]
2022	**Google Latin America Research Award** (LARA 2021) recognizing thesis project [amount: ∼14,000 USD]
2021	**ELAP scholarship** for research exchange at the University of Western Ontario Canada [amount: ∼11,000 CAD]
2020	**Scholarship** to attend the International Meeting on Artificial Intelligence and its Applications (RIIAA 2020)
2020	WiNLP's **grant** for attending ACL 2020
2020	**ANID scholarship** for doctoral studies in Chile [amount: ∼36,000 USD]
2019	**Travel grant** to attend the Latin American Meeting in Artificial Intelligence (Khipu19) [amount: ∼1,500 USD]
2019	ACM SIGCHI Gary Marsden **travel award** to attend RecSys19 [amount: ∼3,000 USD]
2019	**VRI scholarship** for doctoral studies in Chile [amount: ∼6,000 USD]
2018	**IMFD scholarship** for doctoral studies in Chile [amount: ∼12,000 USD]
2017	**Cum laude distinction** in Master's studies
2017	**Best Master's Thesis Award**
2015	**ICETEX scholarship** for Master's studies in Colombia [amount: ∼14,000 USD]
2015	**Award** for the second-best graduate of undergraduate studies

Invited Talks

2024	*Prediction and Integration for Natural Language Understanding*, CALCULUS Symposium @ KU Leuven
2023	*Stability-plasticity for Lifelong Learning with Pre-trained Models*, Leuven.AI junior researchers day @ KU Leuven
2023	*Evolution of NLP*, Universidad Nacional Abierta y a Distancia Colombia
2023	*Present and future of LLMs*, Yachay Tech University
2023	*Prediction and Integration for Natural Language Processing*, LAMP @ University of Copenhagen
2020	*Evolution of NLP*, CREW20 @ Tecnológico de Morelia
2019	*Trying to reach the state of the art*, Universidad Politécnica Salesiana

Supervision

2023	**Topic**: *Text-based image style manipulation*, **Student**: Benjamin Baumgartner (Co-Supervision)
2023	**Topic**: *Statistical learning models of early phonetic acquisition*, **Student**: Jing Liu (Co-Supervision)

Service

> Reviewer for ACL Rolling Review, AAAI, Recsys, TPAMI, ToG, CVPR
> Co-organizer of shared tasks: SemEval 2024 on Semantic Textual Relatedness, SemEval 2025 on Emotion Detection
> Co-organizer of LatinX in AI Workshops at NAACL 2024 and NeurIPS 2024
> Student volunteer at the RecSys 2019 conference

Skills

Programming	Python, Java, Matlab, C++
Machine Learning Tools	Pytorch, Tensorflow (w/ TPU), Scikit-learn
NLP Tools	Huggingface, AdapterHub, spaCy, NLTK, AllenNLP, Llama-index, Langchain, OpenAI API
Cloud Services	Google cloud platform, Amazon web services, Amazon mechanical turk, Heroku
Hardware	Microcontrollers, Arduino, Raspberry PI, FPGA
Non-technical	Academic writing, Public speaking, Research supervision, Creative thinking, Adaptability
Speaks	Spanish (Native), English (Fluent)

Selected Publications

🎓 Google Scholar to see the full list of publications

[1] V. **Araujo**, M.-F. Moens, and T. Tuytelaars, "Learning to route for dynamic adapter composition in continual learning with language models," in *Findings EMNLP*, 2024.

[2] V. **Araujo**, M. M. Trusca, R. Tufiño, and M.-F. Moens, "Sequence-to-sequence spanish pre-trained language models," *LREC-Coling*, 2024.

[3] V. **Araujo**, A. Soto, and M.-F. Moens, "A memory model for question answering from streaming data supported by rehearsal and anticipation of coreference information," in *Findings ACL*, 2023.

[4] V. **Araujo**, J. Hurtado, A. Soto, and M.-F. Moens, "Entropy-based stability-plasticity for lifelong learning," in *CVPR*, 2022.

[5] J. Cañete, S. Donoso, F. Bravo-Marquez, A. Carvallo, and V. **Araujo**, "Albeto and distilbeto: Lightweight spanish language models," in *LREC*, 2022.

[6] V. **Araujo**, A. Villa, M. Mendoza, M.-F. Moens, and A. Soto, "Augmenting BERT-style models with predictive coding to improve discourse-level representations," in *EMNLP*, 2021.