

JESSICA LOPEZ ESPEJEL, PH.D.

PERSONAL INFORMATION

ADDRESS: Paris, France
EMAIL: jessicalopezespejel@gmail.com
LINKS: [Website](#) | [Scholar](#) | [GitHub](#) | [LinkedIn](#) | [Twitter](#)

EDUCATION

Ph.D. in Artificial Intelligence - Natural Language Processing MAY 2021
Sorbonne Paris Nord University, Villetaneuse & CEA-LIST, Paris-Saclay, France.

Master's degree in Computer Science and Mathematics JULY 2017
Benemerita Universidad Autonoma de Puebla, Mexico.

Engineering in Computer Science - Cum Laude JULY 2015
Benemerita Universidad Autonoma de Puebla, Mexico.

PROFESSIONAL EXPERIENCE

Deep Learning Researcher | Novelis, Paris, France SEP. 2021 - PRESENT

Tools: Git, FastAPI, Pytorch, Transformers, SpaCy, Pytorch, Docker, Pandas
• develop and apply techniques for automated code generation in Java and SQL
• fine-tune models, optimize parameters, and engineer prompts for superior performance
• implement deployment of models for efficient execution
• Implementation and deployment of agents for specific use cases
• generate production-ready optimized code
• publish scientific papers to validate the proposed solutions

Postdoctoral Researcher | Université Sorbonne Paris Nord, France MAY 2021 - AUG. 2021

Tools: Pytorch, Keras, Latex, Git.
• identifying the existence of diasporas from web search results using reinforcement learning
• write optimized and clear code using best practices and efficient algorithms

Software Developer | Totalplay Telecommunications, Mexico JULY 2017 - FEB. 2018

Tools: HTML5, CSS, JavaScript, Servlets, JSP
• java developer specializing in web services (front-end/back-end)
• database management in Oracle
• implementing security algorithms for webpage protection

RESEARCH AND DEVELOPMENT INTERNSHIPS

Transfer learning for imagined speech. | INAOE and BUAP, Mexico JAN. 2017 - JUN. 2017

Tools: Git, Matlab, Emotiv-EPOC
• minimize or eliminate training for new BCI users in imagined speech
• conduct experiments to assess transferability of training information among subjects
• generate binary classifiers for word identification in EEG of new subjects

Object motion control via affordable EEG | INAOE, Mexico JAN. 2015 - JUL. 2015

Tools: Git, Matlab, Emotiv-EPOC, LEGO
• develop an alternative for quadriplegic individuals to facilitate movement
• utilize a neural network (NN) in a system that recognizes eyelid movements
• employ a low-cost Emotiv-EPOC headband to sense EEG signals for practical implementation

SELECTED PUBLICATIONS (SEE FULL LIST [HERE](#))

López Espejel, J., Yahaya, M., Bouhandi, M., Dahhane, W., Ettifouri, E. "Low-Cost Language Models: Survey and Performance Evaluation on Python Code Generation". Published in the journal Engineering Applications of Artificial Intelligence <https://doi.org/10.1016/j.engappai.2024.109490>

López Espejel, J., Ettifouri, E., Yahaya, M., Chouham, E., Dahhane, W. "GPT-3.5, GPT-4, or BARD? Evaluating LLMs Reasoning Ability in Zero-Shot Setting and Performance Boosting Through Prompts". Published in Natural Language Processing Journal: <https://doi.org/10.1016/j.nlp.2023.100032>

López Espejel, J., Yahaya, M., Chouham, E., Dahhane, W., Ettifouri, E. "A comprehensive review of State-of-The-Art methods for Java code generation from Natural Language Text". Published in Natural Language Processing Journal: <https://doi.org/10.1016/j.nlp.2023.100013>

López Espejel, J., Yahaya, M., Dahhane, W., Ettifouri, E. "JaCoText: A Pretrained Model for Java Code-Text Generation". Published in International Journal of Computer and Systems Engineering, vol. 17, no.2, February 2023, pp. 100–105.

López Espejel, J., de Chalendar, G., Garcia Flores, J., Charnois, T., Meza Ruiz, I. "GeSERA: General-domain Summary Evaluation by Relevance Analysis". Proceedings of the International Conference on Recent Advances in Natural Language Processing (RANLP 2021), pp. 856-867.

López Espejel, J., de Chalendar, G., Garcia Flores, J., Meza Ruiz, I., Charnois, T. "Saucissonnage of Long Sequences into a Multi-encoder for Neural Text Summarization with Transformers". Proceedings of Deep Learning for NLP Workshops, EGC 2021.

López Espejel, J.. "Automatic summarization of medical conversations, a review". TALN-RECITAL 2019- PFIA 2019, Jul 2019, Toulouse, France. pp.487-498. hal-02611210

SELECTED COURSES AND CERTIFICATIONS (SEE FULL LIST [HERE](#))

Mathematics for Machine Learning Specialization	DeepLearning.AI	ONGOING
Generative AI with Large Language Models (16 hours) (certificate)	DeepLearning.AI	OCTOBER 2023
Improving Deep Neural Networks (23 hours) (certificate)	DeepLearning.AI	MARCH 2023
Neural Networks and Deep Learning (24 hours) (certificate)	DeepLearning.AI	JULY 2022
Natural Language Processing Nanodegree (24 hours) (certificate)	Udacity	OCTOBER 2021

TEACHING

Python and Git

Students of 1st year of Bachelor's, École nationale supérieure de techniques avancées (ENSTA, Paris)

MARCH 2021 - MAY 2021

SUPERVISING

Engineering dissertation | Emotional Accompaniment with Language Models MAY 2023 - MAY 2024
Bruno Gil Ramirez (bruno.gilram@gmail.com), BUAP, Mexico.

REVIEWING

Engineering Applications of Artificial Intelligence Journal	AUG. 2024
Natural Language Processing Journal	SEP. 2023
Recent Advances in Natural Language Processing	2021-2023-2025
Natural Language Engineering Journal. Cambridge University Press	2020
International Congress of Computer Science (CONACIC), BUAP	2018-PRESENT
IEEE Autumn Meeting on Power, Electronics and Computing - ROPEC 2018	2018

SELECTED HONOURS, AND AWARDS

Member of the Mexican Association of Natural Language Processing (AMPLN)	SEP. 2022 - PRESENT
Member of the Organising Committee in RANLP conferences	2021, 2023
First prize in Microsoft's CodeXGLUE international competition for Code Generation	DEC. 2021
Member of the CONACYT thematic network of artificial intelligence (RedICA)	2017 - PRESENT
Graduated Engineer with top college honors (Cum Laude)	DEC. 2015
Participant and collaborator of the Guinness Record "Roboteando"	JUN. 2014

LANGUAGES

Spanish - English - French