

# JESSICA LOPEZ ESPEJEL, PH.D.

## PERSONAL INFORMATION

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ADDRESS: Paris, France  
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LINKS: [Website](#) | [Scholar](#) | [GitHub](#) | [LinkedIn](#) | [Twitter](#)

## EDUCATION

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**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

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

- Tools: Git, FastAPI, Pytorch, Transformers, SpaCy, Pytorch
- 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
  - 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)
  - implementing security algorithms for webpage protection

## RESEARCH AND DEVELOPMENT INTERNSHIPS

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**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](#))

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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](#))

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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

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Python and Git MARCH 2021 - MAY 2021  
Students of 1st year of Bachelor's, École nationale supérieure de techniques avancées (ENSTA, Paris)

## SUPERVISING

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

## REVIEWING

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Natural Language Processing Journal	SEP. 2023
Recent Advances in Natural Language Processing	2021-2023
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

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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

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Spanish - English - French