Eder Arley León Gómez

Data scientist

I am an electrical engineer with a master's degree in engineering, backed by a strong foundation in mathematics, statistics, sciences, and humanities. My professional focus lies in data science, where I have developed expertise in key areas such as data analysis and processing, leveraging classical ***Machine Learning*** algorithms for supervised and unsupervised tasks using Python; Deep Learning model development, with applications in ***Natural Language Processing*** (NLP), ***Image Processing***, and ***Video Processing***; and the implementation of ***Artificial Intelligence*** solutions in both embedded systems and Cloud Computing environments. I have successfully utilized platforms like ***Azure*** and ***AWS*** to ensure efficient deployment, scalability, and optimization of these solutions. My robust mathematical and statistical skills enable me to design and rigorously validate all the applications I develop.

Academic Background

2012-2015 **Electrical Engineer**, *National University of Colombia*
Thesis: *"Impacts of squirrel cage induction generators in a power flow studies".*

2016-2019 **Master of Engineering - Electrical Engineering**, *National University of Colombia*
Thesis: *"A framework for online prediction using kernel adaptive filtering".*
Distinction: **Meritorious** for its rigorous research and development of well-founded and consistent research.

2020-Today **Doctorate in Engineering - Automatic**, *National University of Colombia*
Thesis: **Line of research:** Data science.
"Non-stationary time-series forecasting using machine learning for sustainable energy planning"
Bicentennial Doctoral Excellence Scholarship Program, Minciencias, Colombia

Courses and Certifications

Actualmente **Machine Learning Engineering**, *Platzi*

2024 **Introducing Multimodal Llama 3.2**, *Coursera*

2022 **Microsoft Devops Foundataion**, *Intelligent trainig*

2022 **AWS Cloud Practitioner**, *Platzi*

2021-2022 **Getting started with AI on Jetson Nano, Getting Started with DeepStream for Video Analytics on Jetson Nano, Building Video AI Applications at the Edge on Jetson Nano**, *Nvidia*

2021 **Time series**, *Kaggle*

Work experience

6/4/2020-Today **Data Science Specialist**, ARUS-Group SURA
Features:

- Chatbot Development: Designed a natural language processing framework to enhance user support in chatbots, utilizing Retrieval-Augmented Generation (RAG) methodologies.
- Object Detection and Tracking: Developed and implemented advanced models for object tracking, enabling real-time alerts and statistical visualization through offline processing workflows.
- Forecasting: Built a time series prediction framework to analyze wage growth trends, leveraging unsupervised clustering techniques for detailed insights.
- Document Digitalization and Information Extraction: Designed robust schemes for field extraction and transformation in documents, facilitating descriptive analytics within digital transformation processes.
- Audio Processing: Developed a comprehensive framework for processing help desk recordings, supporting protocol verification, conversation classification, and the retrieval of engagement metrics.

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6/4/2020- **Data Science**, ARUS-Group SURA
1/5/2021 Features:

- I develop analytical programs and machine learning systems using both *Machine learning* and *Deep learning* algorithms, as well as advanced statistical methods to prepare data for its use in prescriptive and predictive models. This allows the innovation and creation of new products and services within the company.

6/11/2019- **Data Analyst**, STRADATA
4/4/2020 Features:

- Created a comprehensive framework for extracting valuable information from individuals within the Wikidata database.
- Conducted through text analysis utilizing advanced Text Mining techniques and developed efficient data mining models using Knime.
- Designed and implemented Machine Learning algorithms specifically tailored for processing documentary images, enabling accurate and efficient analysis.

26/10/2018- **Data Science**, National University of Colombia, Proyect: *"Characterization of agricultural crops through remote sensing strategies and image processing techniques"*
12/3/2019

7/2/2018- **Data Science**, National University of Colombia, Proyect: *"Development of a condition monitoring and fault diagnosis system in hydroelectric power generation systems using a network of high resolution wireless data sensors"*
21/6/2018

Skill matrix

	Level	Skill	Years	Comment
Language:	■■■■□	Python	9	*Extensive experience in Python with numerous completed projects*
	■■■□□	Linux	10	*Skilled in server management and embedded systems configuration.*
Machine	■■■■■	TensorFlow	7	*Deep learning framework expert with custom layer development*
learning:	■■■□□	PyTorch	3	*Skilled in neural networks for NLP and computer vision*
	■■■■□	Scikit-Learn	7	*Experienced in classical machine learning model development*
	■■■■■	LangChain	1	*Developed RAG-based chatbots for improved accuracy and context*
Cloud	■■■□□	AWS	5	*Designed and optimized architectures for document management projects*
	■□□□□	Azure	1	*Currently migrating cloud infrastructures from AWS to Azure*
Deploy	■■□□□	Docker	2	*Developed Docker schemes for efficient model deployment*
	■■■□□	FastAPI	3	*Built APIs focused on machine learning tasks using specialized frameworks*

Publications

2019 **International Conference on Acoustics, Speech, and Signal Processing**, IEEE, Brighton (UK)
Article: *"Time series prediction for kernel-based adaptative filters using variable bandwidth, adaptative learning-rate, and dimensionality reduction".*

2019 **Pattern Recognition Letters**, El Sevier
Article: *"A time-series prediction framework using sequential learning algorithms and dimensionality reduction within a sparsification approach".*

Languages

English Intermediate B1 (Kaplan International Edinburgh) *United kingdom (UK)*

References

Academic Sergio Garcia Vega. Research Scientist (University College Dublin). Phone: (+44) 7783-361984
Labor Arnold Perez Contreras. Electrical engineer. Operational information analyst. Phone: 315-2350082

I declare that all the information mentioned is true and take full responsibility for its accuracy.

Thank you very much for considering my curriculum vitae.

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