

DAVID EMMANUEL MAQUEDA BOJORQUEZ

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EXPERIENCE

Machine Learning Architect

Banregio

April 2025 - Present Monterrey, MX (Remote)

- As a key member of the bank's innovation cell, I lead the research, evaluation, and implementation of cutting-edge AI solutions to transform and optimize internal banking systems. My role encompasses staying at the forefront of AI advancements, with a specialized focus on agentic AI architectures, and strategically leveraging enterprise-grade tools from leading providers including Google Cloud, AWS, and Red Hat.

My core responsibilities include conducting technical assessments, making architectural decisions, and deploying AI-driven solutions that enhance operational efficiency across the organization. I drive the adoption of agentic AI frameworks and orchestrate the integration of multi-provider AI capabilities to deliver scalable, production-ready systems that align with the bank's digital transformation objectives.

Machine Learning Engineer

IBM

January 2024 - March 2025 Santa Fé, CDMX (Remote)

- Being part of the AI core team at IBM Mexico City, my job consists of implementing and developing solutions with artificial intelligence with special emphasis on generative AI, generating proofs of concept and projects that show the capabilities of watsonx (IBM's proprietary technology) integrating LLM's. all this to satisfy the specific and diverse needs of clients.

In addition to this, I am an AI Mentor of the AI practice in Mexico giving training and various internal talks and conferences to promote the development of the company's new technologies.

Data Scientist

IBM

March 2023 - December 2024 Santa Fé, CDMX (Remote)

- Being part of the Watson Tower in Mexico, I develop applications with the IBM Watson proprietary platform implemented in the IBM Cloud, with special focus on virtual assistants, developing workflows, mechanics, logic, and component interaction.

Software Developer

IBM

June 2021 - February 2023 Santa Fé, CDMX (Remote)

- Being part of the ISD (Information Systems Development) team, part of GBS (Global Business Services) I have worked mainly with the implementation of projects in the banking sector, participating in the development, maintenance and integration of software, implementing ETL processes and generating business and technical analysis.

MY PHILOSOPHY

"We can only see little of the future, but enough to realize that there is much to do"
- Alan Turing

LANGUAGES

(Native) Spanish ●●●●●●
(B1-B2) English ●●●●●●
(A2) German ●●●●●●

PROGRAMMING LANGUAGES AND FRAMEWORKS

Python ●●●●●●
PyTorch ●●●●●●
Agent Development Kit - ADK ●●●●●●
C ●●●●●●
JAVA ●●●●●●
C++ ●●●●●●
SQL ●●●●●●
Tensorflow ●●●●●●
Prolog ●●●●●●
HTML/CSS/Bootstrap ●●●●●●

SOFTWARE

Microsoft Office ●●●●●●
Github Copilot ●●●●●●
Arduino ●●●●●●
MATLAB ●●●●●●
Android Studio (JAVA) ●●●●●●

UTILITIES

Jupyter Notebook ●●●●●●
Google Colab ●●●●●●
WatsonX ●●●●●●
Cloud (IBM, Azure, AWS, OCP) ●●●●●●
Visual Studio Code ●●●●●●
GNU Linux ●●●●●●
Git ●●●●●●
Anaconda ●●●●●●
LaTeX ●●●●●●
Docker / Kubernetes ●●●●●●

CERTIFICATIONS

- Microsoft Certified: Azure AI Fundamentals (AI-900)
- Microsoft Certified: Azure Fundamentals (AZ-900)
- IBM Cloud Essentials
- IBM Cloud Technical Advocate v3

EXPERIENCE

AI Developer

Trendzact

📅 April 2022 - June 2022

📍 Park City, Utah USA (Remote)

- As a temporary member of the team, I assisted in the migration and adaptation of an artificial intelligence-based system for monitoring workplaces, for a client in Taiwan. She mainly participates in the implementation of the cloud structure (AWS) for the assembly of the software, the scaling of the image processing capacity of the system and the development and implementation of alternative models and strategies to the existing system.

Consultant in New Technologies and Information

Management Solutions

📅 November 2020 - May 2021

📍 Santa Fé, CDMX (Hybrid)

- Development and maintenance of software in a credit risk information model used by the main banking entities in Mexico.

AI University Professor

National Autonomous University of Mexico (UNAM)

📅 January 2024 - June 2025

📍 CU, CDMX (Remote)

- As a Temporary / Part-Time Professor at the UNAM Faculty of Sciences and the Institute of Applied Mathematics and Systems Research (IIMAS), I was responsible for teaching core subjects for the Computer Science degree, including Artificial Intelligence I, Neural Networks I, and Big Data I. My primary role involved showing essential introductory concepts while placing a special emphasis on the technical development and practical implementation of these subjects. This required designing demanding laboratory projects, ensuring students grasped the underlying mathematical and algorithmic foundations, and developing their skills in scalable data manipulation and model implementation to prepare them for advanced academic or professional roles.

EDUCATION

Master in Computer Science and Engineering

National Autonomous University of Mexico (UNAM)

📅 August 2022 - August 2024

📍 CU, CDMX

Bachelor of Technology

National Autonomous University of Mexico (UNAM)

📅 August 2017 - August 2021

📍 Cuautitlán, State of Mexico

Diplomado in Applied Artificial Intelligence

Potosino Institute of Scientific and Technological Research (IPICYT)

📅 August 2021 - June 2022

📍 SLP, San Luís Potosí - Online

Software Development Technician

College of Sciences and Humanities (CCH)

📅 August 2015 - August 2016

📍 Azcapotzalco, Mexico City

PUBLICATIONS

Triplet loss-based embeddings for forensic speaker identification in Spanish. Neural Computing and Applications, Special Issue on LatinX in AI Research.. pp. 1-10. 2021.

Maqueda, E. et al.

📅 September 2021

📍 Vancouver, Canada

From recurrent neural networks to language models: the evolution of the NLP in the generation of texts. TIES, Journal of Technology and Innovation in Higher Education, no. 4, 2021.

D. E. Maqueda

📅 October 2021

📍 CDMX

The Golem Team, RoboCup@Home 2020 Proceedings of RoboCup 2020

Pineda, L. y Golem, G.

📅 November 2019

📍 Bordeaux, France

PRESENTATIONS

IA - Use Cases

Show Off Projects - IBM Consulting

📅 April 2024

📍 Mexico City

Workshop - Generation of Artificial Art with GAN's

4th International Meeting on Artificial Intelligence and its Applications (RIIAA 4.0)

📅 August 2021

📍 Mexico City

Tutorial - Generation of Artificial Art with GAN's

National Computer Meeting - 2021 (ENC)

📅 August 2021

📍 Mich, Mexico

Using Triplet Loss for Forensic Identification of Spanish Speakers

Cycle of Conferences on Artificial Intelligence of SIAFI)

📅 May 2021

📍 CU, Mexico City

Towards forensic speaker identification in Spanish using triplet loss

34th Conference on Neural Information Processing Systems (NeurIPS 2020)

📅 December 2020

📍 Vancouver, Canada

Improved 'ask' behavior to improve human-robot interaction in the Golem-III service robot

2nd Student Congress of Artificial Intelligence Applied to Engineering and Technology (CEIAAIT)

📅 November 2019

📍 Cuautitlán, S.of Mexico

AFFILIATIONS

Member of the Mexican Society of Computer Science (SMCC A.C)

PROJECTS

Proof Of Concept - FMF (Mexican Soccer Federation)

IBM

📅 February 2024 - May 2024

📍 Santa Fé, CDMX

This proof of concept consisted of the development of a mobile application that would implement generative AI, the purpose was to obtain a prototype of a useful application for soccer consumers in Mexico.

My contribution in this project was the development of summary of team and player news, which were consumed from an API and passed through an LLM (Large Language Model) that will create the summary. In addition, I worked on generating recommendations for restaurants near stadiums, generation of trivia so that users could play and personalization in general, all this using generative AI

Proof Of Concept - Banorte Origina

IBM

📅 November 2023 - February 2024

📍 Santa Fé, CDMX

This project was dedicated to intelligent data extraction with an image identification system, extraction of contract information through OCR (Optical Character Recognition), a subsequent comparison of the extracted data through generative AI and an implementation in the existing tools. in Banorte Origina.

MAYA 2.0 - Banorte's Virtual Asisstant

IBM

📅 June 2022 - June 2023

📍 Santa Fé, CDMX

Maya is the name of the virtual assistant of the Mexican bank Banorte present on all its platforms.

I worked on the development of the new version of the assistant, using IBM Watson Assistant v2 technology, which is the one currently deployed.

Agent Interact - Workspace Monitoring

Trendzact

📅 April 2022 - June 2022

📍 Taiwan - USA - Mexico City (Remote)

"Workspace Monitoring" is a security product featuring user activity monitoring, keylogging, identity verification, and real-time visual reviews with threat notifications. I worked on the "Agent Interact" object identification system used for this final functionality. When the Taiwanese company TSMC required support for 10,000 simultaneous users, I re-engineered the neural network architecture, performed data preprocessing and cleaning, and implemented parallel computing. These optimizations allowed the system to scale effectively on AWS while significantly reducing production and server costs.

Triplet loss based embeddings for forensic speaker identification in Spanish

Computer Science Laboratory, IIMAS - UNAM

📅 December 2019 - December 2020

📍 University City, Mexico City

Project related to forensic linguistics that, through deep learning with the use of convolutional neural networks and the Triplet Loss loss function, seeks to achieve the identification of Spanish speakers through voice samples with high reliability, which allows the system to be used in the legal framework.

CREDENTIALS

- IBM Machine Learning Specialist - Advanced
- IBM Machine Learning Specialist - Professional
- IBM Machine Learning Specialist - Associate
- IBM AI Associate Data Scientist
- Trustworthy AI and AI Ethics
- IBM Cloud Essentials
- Enterprise Design Thinking Practitioner
- IBM Agile Explorer

<https://www.credly.com/users/david-emmanuel-maqueda-bojorquez.856ee809>

COURSES

SPACERAISE 2026 - The International Summer School for Space Studies and Interdisciplinary Applications- "Artificial Intelligence For Space"

Gran Sasso Science Institute

📅 May 2026

📍 L'Aquila, Italy

Application Developer - Java and Web Technologies

IBM - GBS Associate

📅 Nov 20 - Feb 21

📍 Online

DS-GA 1008 · Deep Learning

New York University - Center For Data Science

📅 June - Dec 2020

📍 New York - Online

ASSISTS

AI Summit México – Organized by Fintual and OpenAI

Hotel Presidente InterContinental, Polanco

📅 May 2025

📍 Mexico City, Mexico

22nd Mexican International Conference on Artificial Intelligence

IIMAS, UNAM (UAey) - UADY

📅 November 2023

📍 Mérida, Yucatán, México

Tenth Lisbon Machine Learning School – LxMLS'2020

Instituto Superior Técnico, Instituto de Telecomunicações and INESC-ID

📅 July 2020

📍 Lisbon, Portugal