

# Oscar Antonio Juárez Jiménez

## Artificial Intelligence Engineer

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### Education

#### National Polytechnic Institute (IPN)- Escuela Superior de Computo

México, CDMX. Aug 2021- Jul 2025

Bachelor's Degree in Artificial Intelligence Engineering

GPA: 9.5/10

Relevant Courses: Machine Learning, Digital Image Processing, Natural Language Technologies, Neural Networks and Deep Learning, Advanced Neural Networks, Software Engineering for Intelligent Systems, Parallel Computing, Bio-Inspired Algorithms.

### Professional Experience

#### Banco de México | Full-Stack Intern

Jun - Dec 2024

- Boosted system performance by 30% by optimizing SQL queries and reducing algorithmic complexity in Java/JavaScript, while enhancing UX through a streamlined, intuitive interface.
- Optimized SQL database management by enforcing integrity and security via normalization, stored procedures, views, indexing, and role-based access control.

### Projects

#### Object Segmentation System for Indoor 3D Model Editing Using NeRF

Jun 2024 – Aug 2025

- Designed an AI-based object segmentation system for editing 3D models in interior environments.
- Boosted system classification accuracy by 30% by integrating Machine Learning algorithms into the initial U-Net architecture.
- Achieved photorealistic 3D editing by combining NeRF's spatial reconstruction with diffusion-based texture synthesis (Stable Diffusion).

#### RAG ChatBot

Jan – Jun 2024

- I collaboratively developed a Retrieval-Augmented Generation (RAG) system for LLM to generate summaries and answer natural language queries about Mexico's Diario Oficial de la Federación (DOF).
- Used LangServe and LangChain for model retrieval and Pinecone for vector storage.

#### Student Management System

Jun – Dic 2023

- Developed a web system for enrollment management and course assignment in collaboration with a development team.
- Validated inputs, ensured responsiveness, and strengthened database security.

To check out more of my projects, please feel free to visit my own portfolio at <https://oscarjuji.github.io/>

### Courses & Certifications

- Legacy Responsive Web Design Challenges – FreeCodeCamp
- Legacy Python for Everybody – FreeCodeCamp
- Learn AI Skills Challenge – Microsoft
- JavaScript Algorithms and Data Structures – FreeCodeCamp
- Oracle Next Education – Alura LATAM
- Google Cloud Career Launchpad – Cloud Skills Boost

### Skills

**Programming Languages:** Intermediate: C/C++, Python, Java, JavaScript, SQL, and Excel; Basic: C#, CUDA, GO, PHP, TypeScript, R.

**Tools & Technologies:** Intermediate: Git, Google Cloud Platform, Docker, HTML & CSS, AI/Machine Learning, Tableau; Basic: Power BI, MLFlow, Kubernetes, Azure.