

Oscar Alexis García García

COMPUTER ENGINEER

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Summary

Computer Engineer with experience in solving problems that are algorithmic, technological and mathematical, as well as in backend and front-end web development. Basic experience in generative AI, cloud computing and microservices. National Finalist in intercollegiate competitive programming contests, using C and C++. Knowledge in a variety of programming languages such as Java, JavaScript, PHP and Python, as well as in the use of technologies such as HTML, CSS, SVG, SQL, Oracle, MongoDB, Django, Angular, OpenGL and PyTorch.

Education

Universidad Autónoma Metropolitana

COMPUTER ENGINEERING

Azcapotzalco, CDMX

Sept. 2018 - Feb. 2024

Experience

Secretariat of Anticorruption and Good Governance

HEAD OF THE CONTRACTING PROCEDURES OPERATION DEPARTMENT (FULL-TIME)

CDMX, Mexico

Oct. 2024 - Present

Backend Development and Feature Implementation for ComprasMX system

Backend development and feature implementation for the ComprasMX system using Django REST Framework (backend) and Angular (frontend), ensuring compliance with new legal requirements in public procurement. Responsibilities included coding and testing RESTful API endpoints in Python with Oracle as the database, and collaborating with the development team. Version control and documentation were managed through GitLab.

Data Analysis, Extraction and Publication from Compranet 5.0 Database for Government Transparency

Analysis and data extraction from the Compranet 5.0 database for its publication, ensuring access to public information on procurement and public works contracting procedures of the Government of Mexico through the open digital system "Histórico de Compranet 5.0".

- **Objective alignment:** Collaboration with the business area to analyze and establish project objectives, identifying the information intended for public release.
- **Database analysis:** Identification and analysis of relevant database tables.
- **DDL translation:** Translation of the schema definitions of the identified tables from the remote Oracle database to a local MariaDB database.
- **Record migration:** Migration of records from the previously translated tables of the remote Oracle database to the local MariaDB database, ensuring data integrity.
- **JSON file generation:** Creation of JSON files from the identified tables, ensuring the correct format for front-end consumption.
- **Field filtering:** Selection and removal of confidential attributes, keeping only the information authorized for public disclosure.
- **Technologies:** PHP 8.2, Oracle Database 12c, Oracle Database 19c, MariaDB 11.4, Linux, Git.
- **Soft skills:** Requirements analysis, process optimization, confidentiality, teamwork, consistency.

Ultrasist CMMI 5

SOFTWARE ENGINEER (PROJECT-BASED POSITION)

Remote, Mexico

Jun. 2024 - Sep. 2024

Development of the web service for the RUCAM (Registro Único de Certificados, Almacenes y Mercancías) for Mexico's Secretariat of Economy. The service facilitates the management of deposit certificates and warehouses of General Deposit Warehouses, ensuring compliance with the new legal requirements established by the 2024 law reforms.

- **Requirements Analysis:** Requirements determination from the analysis of the reforms to the General Law of Negotiable Instruments and Credit Transactions (Ley General de Títulos y Operaciones de Crédito) and the General Law of Credit Organizations and Auxiliary Activities (Ley General de Organizaciones y Actividades Auxiliares del Crédito), and from the analysis of the existing RUCAM database.
- **Reverse Engineering:** Determination of the *backend* functionality of the RUCAM through the analysis of its database.
- **Development:** Implementation of the RUCAM web service.
- **Automated Testing:** Design of scenarios and test cases. Implementation of automated testing.
- **Documentation:** Writing and reviewing various manuals (user, deployment, etc.) for the RUCAM web service.
- **Technologies:** PHP 8.2, Oracle Database 11g, Oracle Linux 9.4, GitHub, Oracle VM, Docker.
- **Soft Skills:** Clean and consistent code, requirements analysis, confidentiality, problem solving, teamwork.

Bachelor's Degree Project (under the direction of Dr. Rodrigo Alexander Castro Campos),

UAM-Azcapotzalco

GENERATION AND SOLVING OF LEVELS OF A PLATFORM VIDEO GAME USING NEURAL NETWORKS.

Azcapotzalco, Mexico

Nov. 2023 - Feb. 2024

- Development of a neural network that generates level descriptions of a platform game using PyTorch and C++.
- Development of a neural network that solves levels of such game.
- Development of the platform game visualization using HTML, CSS and Javascript.

Social Service (under the direction of Dr. Rodrigo Alexander Castro Campos), UAM Azcapotzalco

Azcapotzalco, Mexico

WEB SYSTEM FOR THE MANAGEMENT OF THE ACADEMIC TUTORING PROGRAM OF THE DCBI. (*front-end* DEVELOPER)

Nov. 2022 - Aug. 2023

- Development of the graphical interface in HTML and CSS.
- Development of the *front-end* functionality using Javascript.
- Creation of CSS styles.
- Responsive design for mobile devices.

Honors & Awards

NATIONAL

2025	Contestant (3rd place) , UAM Azcapotzalco Programming Contest	Mexico, Mexico
2024	Contestant (1st place) , UAM Azcapotzalco Programming Contest	Mexico, Mexico
2023	National finalist (21st place) , International Collegiate Programming Contest (ICPC)	GDL, Mexico
2022	Contestant (7th place) , UAM Azcapotzalco Programming Contest	Mexico, Mexico
2022	Contestant (honorable mention) , International Collegiate Programming Contest (ICPC)	Mexico, Mexico
2021	Contestant (14th place) , ANIEI National Programming Contest	Mexico, Mexico
2021	National finalist (41st place) , International Collegiate Programming Contest (ICPC)	Mexico, Mexico

Skills

Programming Languages	C/C++ (5 years), Java (2 years), Javascript (1 year), PHP (3 years), Python (1 year)
Technologies	HTML (2 years), CSS (2 years), SVG (1 year), SQL (3 years), Oracle (2 years) OpenGL (6 months), MongoDB (3 months), PyTorch (3 months), Django (6 months), Angular (6 months), Git, Github, GitLab
Methodologies	Scrum Fundamentals
Languages	Spanish (native), English (intermediate)

Extracurricular Activities

Algorithms Club at UAM Azcapotzalco

Azcapotzalco

MEMBER

Apr. 2021 - Feb. 2024

- Attended training sessions with the aim of representing my university at several programming contests.