

RAÚL DANIEL CORONA-FERNÁNDEZ

SOFTWARE ENGINEER & PYTHON DEVELOPER

CONTACT

 +52 5534895612

 geofisica.corona@gmail.com

 Mexico city, México

EDUCATION

Ph.D. Earth Sciences

Institute of Geophysics, UNAM,
2023

M.Sc. Earth Sciences

National School of Higher
Education Morelia, UNAM, 2018

Bachelor Geophysical Engr. (PE)

Faculty of Engineering, UNAM,
2014

SKILLS

- QA Testing & Debugging
- Agile / Scrum
- Python
- OOP
- DB analysis / SQL
- Bash/shell
- Linux / Unix
- JIRA, GIT & Perforce
- Squish & Selenium
- Cloud
- Containers
- Proactivity
- Initiative to learn new skills
- Excellent oral and written communication skills
- Coordination & leading diverse working teams

PROFILE



Software Engineer & Python Developer with over **seven** years of experience in Python and **Object-Oriented programming (OOP)**. Expertise in **SQL** and qualitative, quantitative, and descriptive statistical analysis of databases. Two-plus years of experience in software development lifecycle (**SDLC**) and **CI/CD**, Agile methodologies, maintenance, and quality assurance (**QA**). Proficient in **Unix**-based operating systems, **API** design, control platforms, project management & issue tracking tools. Basic knowledge on containers and cloud API. Also, I have experience in project execution, management and coordination.



WORK EXPERIENCE



AspenTech - EMERSON

AUG 2023 - SEP 2025

Sr. Software Quality Engineer

- Responsible for maintaining, creating, and overseeing **automation tools and processes** for two pipelines with over 500, which streamline the testing process and enable repeatability and consistency
- Responsible for robust **cross-platform test** automation infrastructure for Windows and Linux environments
- Design, develop, and execute **manual and automated tests** cases for **CI/CD** software functionality and performance. Work with version control and project management platforms, and issue tracking tools.
- Collaborate with development teams to define test strategies and requirements, identify and track issues, and conduct performance evaluations to optimize software efficiency and meets customer requirements and product specifications.
- Back-end development and testing. Databases maintenance using SQL Servers



Mexico's National Seismological Service (SSN)

FEB - AUG 2023

Developer & Data Analyst

Fixed-term contract. Automating analysis processes, enhancing and debugging programs in multiple programming languages for real-time seismic source analysis.

- Responsible of **automation** of analysis processes.
- Improve, update, debug, and automatize based programs for seismic source analysis in real time.
- Linux Servers & real-time seismic databases management



Grupo Selome S.A. de C.V.

JAN 2022 - DEC 2023

External consultant as seismology expert

Project: Seismic Risk Identification for Mexico's Federal Highway Network under Climate Change Scenarios

- **Led a Probabilistic Seismic Hazard Assessment (PSHA)** to evaluate current and future risks across national infrastructure.
- Integrated seismic hazard data into a nationwide **GIS** platform, enabling **spatial analysis and decision-making**.
- Reviewed and incorporated geospatial databases and cartographic sources from prior seismic studies to enhance model accuracy and regional relevance.

LICENSES & CERTIFICATIONS

- Selenium Webdriver with PYTHON from Scratch + Frameworks
- Agile Software Development: Code Quality
- Machine Learning with Python: Foundations
- The Complete SQL Bootcamp: Go from Zero to Hero
- TensorFlow 2: Working with Neural Networks
- First Advanced Scientific Programming in Python (ASPP) Latin-American Summer School 2023
- Scientific Python3

LANGUAGES

- Spanish (Native)
- English (Fluent)
- Italian (Beginner)

REFERENCE

Eric Chatilla
AspenTech / Principal Software Engenier
Email : eric.chatila@aspentech.com

Miguel Santoyo Ph.D.
Geophysics Institute, UNAM/
Full-time Professor B
Email : santoyo@igeofisica.unam.mx

WORK EXPERIENCE

Institute of Geophysics, UNAM

JAN 2018 - MAY 2023

Research Associate (PhD)

Executed and coordinated research projects. Developed and tested software solutions and designed efficient database schemas.

- Designed and developed a custom cross-platform software using Python and Qt for seismological analysis, leveraging advanced research skills and domain expertise.
- Research & Project Execution. Led and collaborated on multiple research projects, ensuring smooth coordination and innovative problem-solving while fostering effective communication across teams.
- Software & Data Management. Developed and optimized software solutions, performed quality assurance, designed scalable database schemas, and implemented Python-based data processing and statistical analysis for improved decision-making.
- Systems & Machine Learning Development. Managed Unix servers, contributed to machine learning and genetic algorithm advancements, and enhanced predictive analytics through efficient model implementation. Use of GIS to present databases analysis results.

PREVIOUS WORK EXPERIENCE

- **Terratunel**, Project Engineer, May 2015 - Jul 2015 ·

Geotechnical Engineering · Geophysical Data Processing · Seismic Processing · Geophysical Surveys · Field Work · Teamwork · Customer Service · Operational Planning

- **Geoambiente Grupo SACMAG**, Geophysicist, Sep 2014 to Feb 2015

Coordinator of the terrestrial exploration geophysics team · Performed shallow geophysical exploration projects for gas pipeline routes

- **Compañía Mexicana de Exploraciones, SA de CV**, Junior Engineer, Jan 2014 to Aug 2014

Seismic Interpretation · Data Processing · Oil & Gas Exploration · Seismic Processing · Operational Planning · Teamwork · Field Work

- **Instituto de Geofísica, UNAM**, Internship Trainee, Jan 2013 to Dec 2013

Research and Development (R&D) · Research Skills · Data Processing · Data Analysis · Geophysical Surveys · Analytical Skills · Teamwork · Field Work

- **Comisión Federal de Electricidad**, Geophysicist Internship, Jul 2012 - Aug 2012

Geotechnical Engineering · Geophysical Surveys · Field Work