

# RAÚL DANIEL CORONA-FERNÁNDEZ

SOFTWARE ENGINEER & PYTHON DEVELOPER

## CONTACT

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- 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 Engineer  
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

- **Terratunnel**, 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