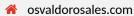# PHYSICIST OSVALDO ROSALES PÉREZ

Software Engineer, Data scientist, continuous learner and passionate about the intersection of Bitcoin, AI and Complex Systems.

CONTACT

- 🏠 osvaldorosales.com
- ⊙ @osvaldorosales96
- ✉ rosaleso@proton.me
- 📞 +52 6461164406 [Telegram ✈]
- ▶ Osvaldo Rosales | Physics Stories
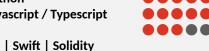- 📍 Pacific Standard Time UTC-08

SKILLS

🎌 *Languages, Fluent Trilingual*
Spanish *Native*, **English** *C2*, **French** *C1*

</> *Programming Languages*
Python ●●●●●
Javascript / Typescript ●●●●●
C ●●●●○○
Go | Swift | Solidity

🧊 *Software Tools & Libraries Experience*

Web Backend
FastAPI, Django, Flask, SQLite, PostgreSQL, GraphQL, RabbitMQ, Redis.

Web Frontend
SvelteKit, ReactJS, Tailwind, ViteJS

Cloud | CI/CD | Monitoring
Docker, AWS, Azure, Vercel, New Relic, OpenTelemetry

Bitcoin & Lightning
BTCPay Server, BitcoinDevelopmentKit, Mempool, IbexHUB API, python-bitcoinrpc, BitcoinJS, WebLN.

Bitcoin Node Management
Voltage, MyNode/RaspiBlitz, LNBits, ThunderHub, Amboss, Polar

Data Science
Numpy, Pandas, SciPy, StatsModels, Matplotlib, Seaborn, scikit-learn, Scrapy

AI Deep Learning
Tensorflow, Keras, Pytorch, OpenAI API, OpenCV, Tesseract OCR, AWS Rekognition

Electronics
Raspberry Pi, Arduino, Texas instrument Launchpad MSP430, 3D printing.

x^2 *Highly proficient in mathematics*
Probability and Statistics ●●●●●
Numerical Simulations ●●●●●
Differential Equations ●●●●●
Advanced Calculus ●●●●●
Linear Algebra ●●●●●

⚙ EXPERIENCE

📅 08/2021 - **Present**
📍 **MedTrainer, Queretaro, México**   **Senior Platform Engineer (Remote)**

- Lead the **Python Automation Team** in over 15 automation microservices from initial proposal and architecture design to the final delivery to our platform for on-demand **data retrieval and web scraping** of several US-States medical professional licensing websites.
- Maintained **constant communication and collaboration** with the company CTO, DevOps and frontend departments about the projects design and implementation.
- Transformed several data validation task **from 1 employee-hour to 1 automated-minute**.
- Established standards for good practices in **python microservices** and **test-driven development** as well as standards for **Detailed Documentation and Templates** for future projects.

📅 10/2021 - 05/2022
📍 **CryptoMX, Tijuana, México**   **Blockchain Consultant (Remote)**

- Assisted on the creation of online educational content and courses about **Bitcoin, Ethereum Smart-Contracts and NFTs**.
- Developed Solidity smart-contracts for **ERC-721** NFTs and Royalties Splitters, tested and deployed on **Ethereum and Polygon networks** with the **Python Brownie Framework and Truffle**.

📅 02/2021 - 08/2021
📍 **Arkus Nexus, Tijuana, México**   **Machine Learning Engineer (Remote)**

- Developed **Deep learning models for patter recognition and text extraction from images** implementing Keras, OpenCV and Tesseract OCR Engine. This models were served through a **Flask API** and triggered as **Celery asyncronous tasks** on AWS with a **RabbitMQ message broker**.
- Supported other **Django** and **Flask** web projects within the company.

📅 01/2019 - 02/2021
📍 **Grupo Molecular, Tijuana, México**   **Financial Researcher**

- **Trained Deep learning** models for **time-series forecasting** and **pattern recognition** implementing **Long-Short Term Memory Models and Convolutional Neural Networks**.
- Delivered statistical **data analysis and visualization** of experimental results in research projects.
- Lead a team of researchers and **financial analysts** on the design and delivery of a **Financial Analysis Platform** that analyzed real-time **foreign exchange** data from various sources implementing **Django**, PostgreSQL and **Celery asyncronous tasks** on the backend.

₿ BITCOIN & BLOCKCHAIN PROYECTS

🔗 - **Forever In Bitcoin [Link]:**   Bitcoin ordinals inscription service where you can upload text and images into the most secure, decentralized and immutable blockchain ever. Bitcoin and lightning payments accepted.

🔗 - **Bitcoin-Lightning IOS Wallet [Link]:**   **Non-custodial** IOS Bitcoin wallet, connects to an **Electrum server** for Blockchain data and successful transaction broadcast on mainnet. **Lightning Payments** functionality implemented through the **IBEXHub API** Service.

🔗 - **Chaotic Attraction Numerical Simulations [Link]:**   Interactive 3D Physics simulations of the butterfly effect to showcase the beauty of chaotic systems of equations. Deployed on IPFS, minted as ERC-721 tokens.

🎓 EDUCATION

📅 2014 - 2019
📍 **Universidad Autónoma de Baja California**,   **Degree in Physics**
Science Faculty, **Ensenada, México**.

📅 2017 - 2018
📍 **Université Claude Bernard Lyon 1**,   **Academic Exchange**
Faculté des Sciences et Technologies, **Lyon, France**.