LUIS PAPIERNIK

Software developer | Physicist

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Physicist passionate about technology, with more than 3 years of experience as a software developer, and a strong formal background in math, physics and programming. My specialty is backend development, but I am able to perform a wide variety of tasks. I am passionate about what I do, so I am always improving my knowledge.

RELEVANT EXPERIENCE

Backend developer

Guane Enterprises

02.2021 – 03.2022 Milla de oro. Medellin

- Microservices creation with FastAPI, Celery, Redis, RabbitMQ and PostgreSQL.
- Process automation with Python and Selenium.
- Web scrapping with Python and Selenium.
- Document scrapping with regular expressions.
- Business logic implementation with Pyspark.
- Google cloud computing: administration of cloud functions, buckets, dataproc clusters and dataproc jobs.
- Partners code refactoring.
- Participation as a speaker at the company's seminar.

Software developer

BCfort

05.2019 – 10.2020 Complejo Ruta N. Medellín

- Backend development with NodeJS, Express and mongoDB.
- AWS cloud computing: deployment of APIs on EC2 instances and S3 management.
- Unit test design and development.
- Load test design and development.
- Telegram bots development.
- Smart contract development with Solidity.
- Data analysis.

Intern

Math Decision

02.2019 – 05.2019 Balcones del Cerro. Medellin

- Unit test development (Python).
- Software design study.
- HTTP protocol study.

Freelance

Upwork

Ocasionally Remote

- Backend development.
- Bots development for game items trading.

PROJECTS

Course Project
Music composition with biaxial neural network.

See project on GitHub for details.

- This project attempts to reproduce the paper "Generating Polyphonic Music Using Tied Parallel Networks" by Daniel D. Johnson.

PyCellsLib
Library for the simulation and visualization of cellular automata.

See project on GitHub for details.

Degree Work
Work developed as a requirement to obtain the degree of physicist.

See project on GitHub for details.

At the moment the github repository might be private. For access or further information please contact me.

- In this project, supervised learning algorithms are studied from the perspective of category theory, in particular, monoidal categories.

Fractals generator (In progress)
Compilation of scripts for the generation of various fractals.

See project on GitHub for details.

LANGUAGES

Natural Languages

Spanish: Native
English: EF Set C2 Proficient

Programming Languages

Python
C/C++
JavaScript
λ Haskell
Dart

EDUCATION

Relevant Courses (with computational approach)

Universidad de Antioquia

04.2015 – 06.2022 Medellín, Colombia

- Techniques for Physical Sciences I (VPython, Blender and CUDA in C).
- Numerical analysis.
- Techniques for Physical Sciences II (Artificial Intelligence).
- Computational Physics 1 and 2 (Resolution of physical problems with Python, Root framework and C++).
- Computational Astrophysics (N-body problems simulations and Simulation of fluids and galaxies with SPH methods).
- Tensor properties of matter.
- Computability (theory of computable functions).
- Number Theory (with some cryptography topics).

Physics Student

Universidad de Antioquia

04.2015 – 06.2022 Medellín, Colombia

GPA: 3.9/5.0

The Coding School

IBM

10.2020 – 05.2021 Remote

Introductory course in quantum computing.

QColombia Workshop

QWorld

17.02.2022 – 07.03.2022 Remote

Introductory course in quantum computing.

Awards and Scholarships

Ser pilo paga

04.2015 – 06.2020

HARD SKILLS

Strong mathematical background | Qiskit | pandas | numpy | pyspark | scipy | FastAPI | multiprocessing | Regex | Scraping | Docker | Unity | flutter | Arduino | CUDA in C | Git (GitHub, Gitlab) | LaTeX | UNIX | Windows | Redis | PostgreSQL | HTML | CSS | Markdown | Among other things

SOFT SKILLS

Hard-working | Fast-learner | Creative | Great Adaptability | High stress tolerance | Good communication

EVENTS

Fourier analysis applied to music

Universidad de Antioquia

14.06.2017 Medellin, Colombia

The goal of the project was to obtain the sheet music of a melodic from an audio file, using the fast Fourier transform.

Modular Arithmetic and Cryptology

SPECI UdeA

01.11.2018 Medellin, Colombia

On classic cryptology methods and how to break them.

Grupoids: A Theory of Local and Global Symmetry

SPECI UdeA

25.04.2019 Medellin, Colombia

On the theory of categories in the study of symmetries.

REFERENCES

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