ALFREDO ALARCON Y.

Bioinformatics Team Leader

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DESCRIPTION

Team Leader **with 8-year experience in Data Science and Web Development**. Interested in innovation, multidisciplinarity and continuous learning.

EXPERIENCE

Bioinformatics Team Leader

Global Bioenergies

Feb 2017 – Sept 2019 Paris region, France

- Begun a new activity in bioinformatics, data science and web development inside a **biotechnology company**.
- Development and deployment of a whole web application useful for processing, analysis and visualization of most scientific data of the company.
- Modelling and analysis of **genomics and transcriptomics data** led to the discovery of new genes and metabolic pathways. Three patents being written at the moment.
- Management and training of one collaborator.
- Dissemination of data analysis and web development among biologist colleagues.
- Tools based on python, javascript (React), SQL (postgres) and devops, as well as specialised bioinformatics software (clustalo, rdkit, biopython, blast, hmmer...).
- Dissemination of data analysis and web development among biologist colleagues.

Transportation Data Analyst

Systra

Jan 2013 – July 2016 Marseille, France

- Public policies analysis applied to **public transportation planning**.
- Analysis of geographical, transportation and poll data in order to forecast demand for a public transportation system in a regional or national context (*Transportation networks analysis*).
- Data mining and forecast using python, excel and VBA, as well as specialised transportation software.

EDUCATION

Engineer - *Ingénieur de l'Ecole Polytechnique*

Ecole Polytechnique

December 2012 Palaiseau, France

Deep Learning Specialization

deeplearning.ai

October 2019 Coursera

MSc Biotechnology - *Systems and Synthetic Biology*

Université Paris-Saclay

January 2016 Evry, France

MSc Economics and Public Policies

Sciences Po - Ecole Polytechnique

December 2012 Paris, France

SKILLS

- **Programming**: Python, JavaScript, C#, Java, R, VBA
- **Data Analysis**: pandas, sklearn, tensorflow.
- **Data Visualisation**: matplotlib, plotly, bokeh
- **Backend**: django, flask, nodeJS (express)
- **Frontend**: react, jquery, bootstrap, css, html
- **DB**: postgreSQL, mongoDB, elasticsearch, mySQL
- **DevOps**: docker, git, virtualbox, vagrant, ansible
- **OS**: linux, mac, windows
- **Office**: excel, power point, word
- **Bioinformatics**: clustalo, rdkit, biopython, blast, hmmer, cobra

LANGUAGES

English
French
Spanish
German

PROJECTS

Web Development Workshop in India

- I taught a 28-hour workshop about frontend web technologies: HTML, CSS, JS and React to students from Mahindra Ecole Centrale in Hyderabad, India.

Structured Complex Scientific Data into SQL.

- Parsed, structured and computed calculations from heterogenous experimental data (HPLC, mass spectrometry, gaz chromatography, ...) as well as DNA/Protein sequences.

Development and Deployment of a Scientific Full-Stack Web Application

- The application simplifies the retrieving and visualisation of both experimental and theoretical data.

Development of a Mass Spectrometry Data Analysis Pipeline.

- Tool is capable of detecting relevant features (Machine Learning) and identifying them comparing fragmentation spectra from raw data and *in-silico* spectrum prediction.

Gene Research with Sequence Analysis and Chemoinformatics.

- Several homologues with reinforced activity found in public and private databases using sequence comparison and chemoinformatics.

Metabolic Network Modelling.

- Analysis of complex networks modelling the relations between genes, proteins, molecules and proteins inside the cell. Main conclusions led to publication of three patents.

Transportation Network Modelling and Forecasting

- Creation and analysis of transportation networks holding geographical data for different transportation modes (train, cars, flights), as well as estimations of the current demand coming from polls and simulations.