

# MARIO BURBANO

## Cloud Data Engineer and Analyst

Date of birth 14 November 1984

Nationality Irish/Colombian

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PhD in Computational Chemistry with extensive experience in cloud computing, task automation and data analysis. I am passionate about the implementation of data pipelines and how they can facilitate the process of data-driven decision-making.

## PROFESSIONAL EXPERIENCE

### Data Engineer

#### Ysance/Devoteam

📅 2021 – Ongoing

📍 Île de France, France

- **L'Oréal** As part of one of the IT/BI teams within the R&D department, I participated in a project whose aim was to migrate the existing data pipelines from a Talend/Hadoop environment towards an Airflow/GCP solution.

### Data Engineer/Scientist and instructor

#### Lincoln/Alten

📅 2019 – 2020

📍 Île de France, France

- **Malakoff Humanis** As part of the team in charge of the data infrastructure, I developed a series of scripts aimed at analyzing the data required for the successful migration of the company's machine learning projects developed on Dataiku DSS. These models relied on data hosted on-premise which was to be moved to the AWS cloud.
- **Orange** I integrated the General Public Marketing team in order to migrate the existing SAS datamarts to Dataiku DSS. I also provided several teams with training for this new tool.

### Data Engineer/Analyst

#### Altran

📅 2018 – 2019

📍 Île de France, France

- **Essilor** As a member of the team tasked with implementing and maintaining the software used internally for optical calculations, I participated in the push towards the creation of a data infrastructure on the cloud AWS. The aim was to be able to exploit the data by making it available to the data science and R&D teams. I also contributed to the team by automating the analysis of regression tests by developing a series of Python scripts which accelerated the team's ability to respond to software bugs.

### Research Engineer

#### CEA

📅 2016 – 2018

📍 Saclay, France

- I carried out refactoring and modularisation of an electrochemistry modelling program used to perform Molecular Dynamics simulations of *supercapacitors* at constant potential.
- I implemented a new method for solving electrostatic equations, which was then made available as a stand-alone Fortran library.

## SKILLS

### Numerical Simulation



### Cloud Computing



### High Performance Computing



### Mathematics/Statistics



### Data Visualization



## Computer science

### Python

### SQL

### Linux/Unix/Bash

### Machine Learning

### git

### Docker



AWS

GCP

Dataiku DSS

SAS

Talend

pandas

matplotlib/Plotly

scikit-learn

Flask

Visual Studio Code

Statistical Analysis

Fortran

LaTeX

Parallel computing

Jupyter

## Cloud Services

BigQuery

Airflow

PubSub

AWS EC2

AWS Lambda

Athena

## LANGUAGES

- Spanish – Native language
- English – C2
- French – C2
- German – A1

## EDUCATION

Ph.D. in Computational Chemistry

📅 2009 – 2014

📍 Trinity College Dublin

B.A. in Computational Chemistry

📅 2004 – 2009

📍 Trinity College Dublin

PROFESSIONAL EXPERIENCE – CONT.

Postdoctoral researcher

UPMC

2014 – 2016 Paris, France

- Using Python, I fitted models to study correlated motion in battery components.
- I established procedures to generate/analyse large quantities of data used to explain materials' properties using Fortran/Python.

Ph.D. in Computational Chemistry

Trinity College Dublin

2009 – 2013 Dublin, Ireland

Computer modelling of metal oxides

- I performed molecular simulations of materials for energy production and storage
- Using theoretical predictions, I helped dispell misconceptions regarding the roles of impurities and morphology as possible enhancers of desired qualities in materials used to generate energy.
- I used Fortran/MPI to write simulation and data analysis programs

12 peer-reviewed articles, h-index 11, 577 citations

HOBBIES

- Hiking
- Cycling
- Canine activities
- Gardening