# MARIO BURBANO

## Cloud Data Engineer and Analyst

Date of birth **14 November 1984**     Nationality **Irish/Colombian**
**91 rue du Colonel Fabien, 92160 Antony, FRANCE**     Marital status **Domestic partnership**
@ **burbanom@tcd.ie**     **+ 33 6 43 27 79 22**     **burbanom**     in **burbanom**

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 deparment, I participated in a project whose aim was to migrate the existing data pipelines from a Talend/Hadoop environement towards an Airflow/GCP solution.

### Data Engineer/Analyst 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 through the use of ETLs and data pipelines.
- **Essilor** 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 written in FORTRAN/MPI that is used to perform Molecular Dynamics simulations of *supercapacitors* at constant potential.
- I implemented a new method for solving electrostatic equations in order to improve the performance of the simulation code.

## 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
pandas   matplotlib/Plotly   scikit-learn
Flask   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/CNRS**

📅 2014 – 2016          📍 Paris, France

- Using Python, I fitted models to study correlated motion in solid electrolytes for lithium-ion batteries.
- I established procedures to generate/analyse large quantities of data used to explain materials' properties using Fortran/Python.

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### 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 dispel misconceptions regarding the roles of impurities and morphology as possible enhancers of desired qualities in materials used to generate energy.
- I used Fortran/MPI/Python to write simulation and data analysis programs.

12 peer-reviewed articles, h-*index* 11, 577 citations, as well as, several international conferences.

## HOBBIES

Hiking    Cycling    Canine activities    Gardening