Adelo Vieira, Developer/Data Scientist

47a Phibsborough Rd
Dublin, Ireland

+353 8 52 40 72 08
adeloaleman@gmail.com
Linkedin GitHub

English: Fluent
French: Fluent
Spanish: Native
Portuguese: Intermediate

Click here for an extensive online version

BSc. (Hons) in Information Technology. I'm also a Geophysical Engineer and MSc in Petroleum Geoscience with strong mathematical, problem-solving, and analytical skills. I'm currently particularly interested in Data Analytics and Software Development.

Proficient in multiple programming languages, including Python, Java, JavaScript, SQL, and R. I have a huge interest in Machine Learning and Natural Language Processing. I've been recently working in areas such as Text classification and Sentiment Analysis. I have solid knowledge in several ML algorithms (Naive Bayes, Decision Trees, K-Nearest Neighbour) and Time Series Analysis. I have experience working with Python (Pandas, NLPTK, Scikit-learn, SciPy, Plotly, TextBlob, Vader Sentiment), R, and RapidMiner.

Solid academic experience in Object-oriented programming and Web Development. I have developed several academic projects using Java, React, Node.js (Express.js), and Dash.

I also have advanced experience with the most popular flavors of Linux (Shell Scripting) and excellent academic background in Databases (SQL) and cloud computing (AWS / Google Cloud).

Skills and Qualifications

Software Development

- Some of the languages I've worked with
  - Python, Java
  - JavaScript, HTML, CSS
  - SQL, Sell scripting, R, PHP, C, LaTeX
- Object-Oriented Concepts and Constructs
  - SOLID Principles, Fundamental OOP concepts
  - Nested classes, Upcasting - Downcasting
  - **Object Orientation with Design Patterns**
- Data Structures & Algorithms
- Web Development
  - React, Node.js (Express.js), Dash - Plotly, Ruby on Rails
- Mobile Development
  - Cordova - PhoneGap
  - Ionic - Capacitor

Data Science

- Descriptive Data Analysis
- Correlation & Simple and Multiple Regression
- Naive Bayes, Decision Trees, K-Nearest Neighbour
- Association Rules, Clustering, Time Series Analysis
- Model Evaluation
- Text Analytics
  - Natural Language Processing
  - Sentiment Analysis
- Python for Data Science
  - NumPy, Pandas, NLPTK, Scikit-learn, SciPy, TextBlob, Vader Sentiment
  - Data Visualization, Dash - Plotly
  - Scrapy
- R, RapidMiner, Jupyter

Other qualifications

- **Databases**
  - Database design:
    - Entity relationship modelling & The Enhanced Entity-Relation Model
    - Relational Model, Normalisation
  - RDBMS
    - MySQL: Stored Procedures, Triggers, Events, Cursors, Transactions, Exception Handling
    - PostgreSQL
  - GUI DB administration tools
    - MySQL Workbench, PhpMyAdmin, SQLectro
- **Cloud Computing**
  - AWS, Google Cloud
- **Linux**
  - Advanced experience with the most popular flavors of Linux: Debian, Ubuntu, Red Hat, CentOS
  - LAMP Administration: Apache, MySQL, PHP
  - Remote Management with SSH, Backups
  - Shell Scripting

Work experience

Present
↑
2022

IDG Direct, Ireland

Real Time Data Analyst

I'm responsible for analyzing and monitoring call center data. This includes call volumes, performance indicators, queue time, agents availability, inactivity levels, average handle times, etc.

- Finding patterns and trends in the data to help increase productivity and forecast requirements.
- Generate ideas for process and service improvement.
- Produce daily, weekly, and monthly internal reports to assist with the creation of metrics and targets for services.
- Work closely with the operations team to analyze and help improve their delivery processes.
- Python programming for data analysis and data visualization: Pandas, Scikit-learn, Plotly, Dash.
- Data Management in Excel.

2022 ↑ 2017

IDG Direct, Ireland

Business Development Executive

- Lead Generations:
  - I represent IDG services by carrying out professional outgoing calls to prospective clients. I have to establish and maintain a professional conversation with IT Managers to identify their needs and next investments.
  - I'm the top performance on my team. I work in different markets and contact clients in French, English, and Spanish.
  - Gathering client details and Maintaining/Updating IDG database with accurate client details.
- Train new team members and provide ongoing training:
  - Motivating, developing, and training staff at a BANT level.
  - Script delivery and how to effectively communicate.
  - How to construct specific campaign questions that encourage the prospect to expand on information.
- Monitoring team members on a daily basis, providing support and encouragement where necessary to ensure all service levels and KPIs are reached.
- Ensure Key Performance Indicators (KPIs) are met and constantly improved.
- Collaborating with the Team Manager in the recruitment process of new agents.
- As part of my professional development at IDG, I have completed a Certified Sales training. This course addressed the most important aspects of the sales process.

2014

WikiVox, France

Web Programmer

I was responsible for the installation and administration of a Wiki Web Application based on the MediaWiki engine.

- Extensive experience with the MediaWiki Engine:
  - Configuration of a Multilingual *Wiki*.
  - User access levels configuration.
  - Implementation of different CAPTCHA methods.
  - Implementation of a payment gateway.
  - Page categorization.
  - Take a look at my personal Wiki: http://perso.sinfronteras.ws/index.php/Computer_Science_and_IT
- Administration of a Linux Server:
  - Installation and configuration of a LAMP stack: Apache, MySQL, PHP.
- Database management: MySQL, PhpMyAdmin.

2012 ↑ 2011

Simón Bolívar University - Funindes USB, Venezuela

Research geophysicist of the Parallel and Distributed Systems Group (GRyDs)

Click here to see some examples of my work in Seismic modelling.

As a Research Geophysicist, I was responsible for performing a set of Signal analysis/Time-series analysis/Data processing tasks and ensuring the correct integration and implementation of geophysical applications into a computer cluster platform. One of my main activities was shell script programming for Seismic Modeling and Processing.

- My responsibilities include:
  - Shell script / MATLAB programming for seismic data processing and modeling.
  - Task automation using Shell scripting.
  - Simulations of seismic waves propagation: Wavefront and ray tracing.
  - Generation of pre-stacked synthetic seismic data using wave propagation theories (raytracing and finite difference methods).
  - 2D/3D Seismic data processing.

2011 ↑ 2010

CGGVeritas, Venezuela

Seismic data processing analyst

I was responsible for performing a set of Signal analysis/Time-series analysis/Data processing tasks for oil and gas exploration.

- Demultiplexing, Reformatting (SEG -Y/SEG -D).
- Seismic data edition: Searchin for noisy, monofrequency and incorrect polarities traces.
- Geometrical spreading correction. Set-up of field geometry. Geometry QC.
- Application of field statics corrections, Deconvolution, trace balancing.
- CMP sorting, Velocity analysis, Residual statics corrections.
- NMO Correction, Muting, Stacking, Filtering. Filtering: Time-variant, band-pass.
- Post-stack/Pre-stack time and depth migration.
- Numerical modeling of seismic wave propagation

2010 ↑ 2008

Simón Bolívar University, **Venezuela**

Academic Assistant - Earth Sciences Department

As an Academic Assistant, I was in charge of collaborating with the lecture by teaching some modules of the Geophysical Engineering program at Simón Bolívar University. I was usually in charge of a group of between 20 and 30 students during theoretical and practical activities.

- This experience has contributed to my professional development in two major areas:
  - By teaching modules, I have enhanced my technical geophysical knowledge.
  - I have also developed communication and presentation skills, as well as the leadership strategies needed to manage a group of students and to transfer knowledge effectively.
- Courses taught:
  - Seismic data processing: Concepts of discrete signal analysis, sampling, aliasing, and discrete Fourier transform. Conventional seismic data processing sequence.
  - Seismic methods: The convolutional model of the seismic trace. Propagation and attenuation of seismic waves. Interpretation of seismic sections.
  - Seismic reservoir characterization: Relations between the acoustic impedance and the petrophysical parameters. Well-Seismic Ties. Seismic inversion and AVO.

Education

2020

College of Computing Technology (CCT), **Ireland**

Diploma in Predictive Data Analytics

- Project: Evaluating the Performance of Lexicon-based and Machine Learning Sentiment Analysis for Amazon reviews classification.

2020

College of Computing Technology (CCT), **Ireland**

Bachelor of Science (BSc) (Honours) in Information Technology

- Final year project: Developing a Web Dashboard for analyzing Amazon's Laptop sales data.
  To know more about this project, visit Developing a Web Dashboard for analyzing Amazon's Laptop sales data

2019

College of Computing Technology (CCT), **Ireland**

Bachelor of Science (BSc) in Information Technology

- Final year project: Supervised Machine Learning Models for Fake News Detection.
  To know more about this project, visit Supervised_Machine_Learning_for_Fake_News_Detection

2014

Claude Bernard Lyon 1 University, **France**

Master – Complementary computer studies

- Specialty: Distributed information systems and networks.
- Final year study project: Design and Administration of a Wiki Web Application.

2011

Simón Bolívar University, **Venezuela**

MSc in Earth sciences

- Specialty: Applied Petroleum Geoscience.
- Master thesis project (Excellence Honor Mention): Study of Pull up/Push down effects through seismic modelling, colombian plains.

2007

Simón Bolívar University, **Venezuela**

Geophysical Engineer

- Bachelor thesis project: Basic modelling of pre-stacked seismic data and its corresponding processing sequence, using Seismic Unix package.

Portfolio

- **Developing a Web Dashboard for analyzing Amazon's Laptop sales data** [*Project page*]
  - Try the App at http://dashboard.sinfronteras.ws
  - Github repository: https://github.com/adeloaleman/AmazonLaptopsDashboard
  - A demo video is available at https://www.youtube.com/watch?v=WrvEoA9DD4g
- **Supervised Machine Learning for Fake News Detection** [*Project page*]
  - http://fakenewsdetector.sinfronteras.ws: This is the link to a Web Application that has been created to easily interact with the Machine Learning Models created. It allows us to determine if a News Article is Fake or Reliable by entering the text into an input field. The input text will be processed by the Machine Learning Models at the back-end and the result will be sent back to the client. This Web App was created using Shiny, an R package that can be used to build interactive web apps straight from R.
  - https://github.com/adeloaleman/RFakeNewsDetector: This is the link to a Github repository that contains a R Library we have created to package the Machine Learning Models built. This package contains essentially three functions: modelNB(), modelSVM() and modelXGBoost(). These functions take a news article as argument and, using the Models created, return the authenticity tag («fake (1)» or «reliable (0)»).
- **Social Media Sentiment Analysis using Twitter Data** [*Project page*]
- **Java Desktop App - Zoo Management System** [*Project page*]

  In this project, we have created a GUI Java (Swing) Application for a Zoo Management System.
  - You can try the application by downloading the Java Jar file from this link: ZooManagementSystem.jar
  - Github repository: github.com/adeloaleman/JavaDesktopApp-ZooManagementSystem
- **Java Desktop App - Stock Market Simulator** [*Project page*]

  In this project, we have created a GUI Java (Swing) Application that simulates a trading day of a simplified model of a stock market.
  - You can try the application by downloading the Java Jar file from this link: SMSimulator.jar
  - Github repository: github.com/adeloaleman/JavaDesktopApp-StockMarketSimulator
- **Web App - Clone of Twitter** [*Project page*]
  - Visit the Web App at http://62.171.143.243
  - Github repository: https://github.com/adeloaleman/WebApp-CloneOfTwitter
  - This Application was developed using:
    - Back-end: Node.js (Express) (TypeScript)
    - Front-end: React (TypeScript)
- **Automatic backup in the cloud using shell scripting** [*Project page*]
- **Seismic Wave Propagation Modelling** [*Project page*]

Papers and Publications

- **Adelo Vieira and Crelia Padrón.**
  Analysis of pull up effects through computational seismic data modeling and depth migration, Colombian plains. ↓Download
- **Alejandro Gutiérrez, Evert Durán, Adelo Vieira and Crelia Padrón.**
  Estimation and modelling of reservoirs properties through seismic attributes and geo-statistics in gas fields, southern Spain. SOVG, XIV Venezuelan Geophysics Congress, 2008. ↓Download

Interests and other activities

- **Member of the water polo team at Simón Bolívar University:** Attendance at 5 National University Games.
- Swimming instructor at U.E.U.S.B school.
- Open-source software.
- Travel, Volleyball, Open-Water Swimming.