# MARCELO ALBUQUERQUE

I am a petrophysicist with a unique combination of skills in applied machine learning, statistics and reservoir engineering. I am passionate about analyzing and extracting value from data, using exploration and visualization tools and deploying solutions for business problems.

Currently searching for a position that allows me to build tools leveraging a combination of visualization, machine learning, and software engineering to help people explore and understand their data in new and useful ways.
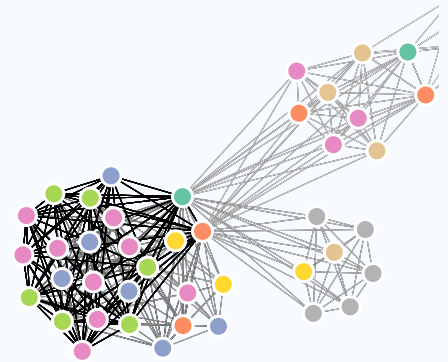
🎓 EDUCATION

2020 | 2018

MsC, Computer Science
UFRJ

📍 Rio de Janeiro, RJ

· Master Thesis: Prediction of Petrophysical Properties Using Machine Learning and Hierarchical Multi-Task Linear Models

2008 | 2003

B.S., Electronics Engineering
ITA

📍 Sao Jose dos Campos, SP

· Diploma Thesis: Applications of Time-Domain Back-Projection SAR Processing in the Airborne Case

💼 INDUSTRY EXPERIENCE

Present | 2018

Data Scientist
Petrobras Research Center

📍 Rio de Janeiro, RJ

· Develop Machine Learning models to predict Petrophysical Properties
· Build REST APIs and python/R packages to access and explore petrophysical data
· Enhance data storage and image processing workflows for microtomographic images
· Design petrophysical data visualization tools and web apps
· Develop reservoir simulation python packages to deploy and update petrophysical models using history matching bayesian methods

Present | 2015

Petrophysicist
Petrobras Research Center

📍 Rio de Janeiro, RJ

· Coordinate the execution of Routine and Special Core Analysis (SCAL) data gathering for pre-salt and other strategic fields of Petrobras
· Analyze SCAL experimental data and provide meaningful petrophysical rock parameters for reservoir simulation
· Simulate and research physical phenomena and improve data acquisition methods

CONTACT

✉ marceloralbuquerque@gmail.com
 github.com/mralbu
🔗 mralbu.github.io
in linkedin.com/in/mralbu

LANGUAGE SKILLS

Skill	
Python	
R	
SQL	
Julia	
Javascript	
Bash	
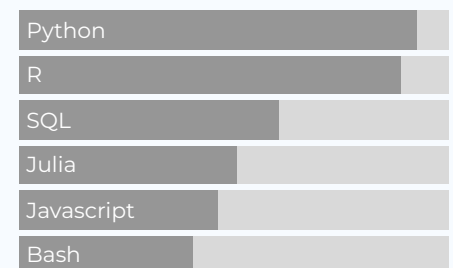
2015
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2010

Reservoir Engineer

Petrobras

📍 Aracaju, SE

- Reservoir Engineer at the Sergipe-Alagoas Business unit (UO-SEAL)
- Management of mature oil and gas fields in the Sergipe Alagoas basin
- Oil Field Production and Reserves forecasting with analytical and numerical simulation tools (CMG Software Suite)

2010
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2009

Petroleum Engineer

Petrobras

📍 Salvador, BA

- Petroleum Engineering in-company specialization at Petrobras University

2008
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2008

Engineering Intern

Orbisat

📍 Sao Jose dos Campos, SP

- Developed a point-target simulator for a ground-based weather radar, using Synthetic Aperture Radar concepts
- Supported the software development team evaluating and implementing radar signal processing algorithms in IDL

🖥 RESEARCH EXPERIENCE

2007
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2007

Diplomand Researcher

Deutsches Zentrum f<U+00FC>r Luft und Raumfahrt (DLR)

📍 Munich, DE

- Implemented a Synthetic Aperture Radar (SAR) processor in IDL and C / pthreads
- Investigated and developed applications of time-domain SAR processing: direct-geocoding and processing of curvilinear acquisition trajectories
- Researched a novel SAR acquisition geometry
- Circular SAR"

📖 PUBLICATIONS

2024
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2024

Relative Permeability Modeling of Heterogeneous Carbonate Rocks from Laboratory to Field Scale Simulation: a Presalt Field Case

Rio Oil & Gas

- Authors: Jose Sergio de Araujo Cavalcante Filho, Israel Bruno da Silva Orrico, Marcelo Ramalho Albuquerque, Claudio Roisenberg, Christian Hendra Sunarto

2018
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2018

Estimation of Capillary Pressure Curves from Centrifuge Measurements Using Inverse Methods

Rio Oil & Gas

- Authored with Felipe M. Eler, Heitor V.R. Carmargo, Andr<U+00E9> L.M. Compan, Dario A. Cruz and Carlos E. Pedreira.

2008
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2008

Applications of Time-Domain Back-Projection SAR Processing in the Airborne Case

European Conference on Synthetic Aperture Radar

· Authored with Pau Prats and Rolf Scheiber

🏆 AWARDS AND ACHIEVEMENTS

2024
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2024

Plinio Cantanhede Award

Rio Oil & Gas

· Award given for the best paper in the 2024 Rio Oil & Gas Conference in the Upstream Section

2024
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2024

Hackathon Semana Petrobras de Dados e Analytics

Petrobras

· First place in a competition where teams from Petrobras had to train semantic segmentation models to identify turbidite channels in 3D seismic cubes