LUIS PAULO BRASIL DE SOUZA

Mechanical and Electrical Engineer

luisbrasil55@gmail.com | Rio de Janeiro, RJ | luis-brasil | lattes.cnpq.br/2467251873812046/

EXPERIENCE

Researcher / Engineer
Ouronova

October 2022 – Ongoing | Rio de Janeiro, RJ

ouronova.com/en/

- P&D for acoustic tools no tubing / through tubing interpretation with AI/ML;
- Team leadership for executing numerical simulations in HPC AIRIS (SENAI-CIMATEC) and synthetic databases for machine learning algoritms;
- Development of alternatives numerical models for acoustic logging in oil wells;
- Use of commercial sonic and electromagnetic profiling tools.

Researcher / Engineer
PUC-RIO

August 2019 – October 2022 | Rio de Janeiro, RJ

puc-rio.br/

- Winner of the ANP (National Agency of Petroleum, Natural Gas and Biofuels) Technological Innovation Award 2020 - wellrobot/ttilt;
- Construction and automation of an acoustic tool for no tubing / through tubing oil well logging;
- Team leadership for executing numerical simulations' creation of synthetic databases for machine learning algorithms.

EDUCATION

DSc in Mechanical Engineering
PUC-RIO puc-rio.br/

September 2024

MBA in Electrical Engineering
IPOG ipog.edu.br/

October 2024

MSc in Mechanical Engineering
UFPA-PA ufpa.br/

August 2018

BSc in Mechanical Engineering
UFPA-PA ufpa.br/

October 2018

BSc in Electrical Engineering
IESAM estacio.br/

January 2015

LIFE PHILOSOPHY

"Never give up!"

MOST PROUD OF

Courage
Turning ideas into achievements.

Persistence
Perseverance to learn how the world works.

Passion
Passion for engineering.

Team
Loves working in multidisciplinary teams.

STRENGTHS

Motivator & Leader | Hard-working

FEM | CFD | Sinal Processing | Math | Control | Electronics | Machine Learning

LANGUAGES

Portuguese
English
Spanish
Chinese

REFEREES

MSc in Mechanical Engineer
Sávio Weslley Oliveira Figueiredo
PETROBRAS
savio.weslley@petrobras.com.br

DSc in Mechanical Engineer
Leonardo Dantas Rodrigues
UFPA
leodr@ufpa.br

Geologist
Jean Rene Ribeiro Penatti
Ouronova
jean.penatti@ouronova.com

PUBLICATIONS

[1] L. P. B. de Souza, G. R. B. Ferreira, I. G. Camerini, *et al.*, "Machine learning-based cement integrity evaluation with a through-tubing logging experimental setup," *Geoenergy Science and Engineering*, vol. 227, p. 211 882, 2023, ISSN: 2949-8910. DOI: https://doi.org/10.1016/j.geoen.2023.211882. [Online]. Available: https://www.sciencedirect.com/science/article/pii/S2949891023004694.

[2] L. P. B. d. Souza, D. P. Parra, J. A. F. Raiol, A. M. B. Braga, and L. D. Rodrigues, "Control of a mechanism for the application of variable axial loads in a multiaxial fatigue testing machine," *Matéria (Rio de Janeiro)*, vol. 28, no. 3, e20230180, 2023, ISSN: 1517-7076. DOI: 10.1590/1517-7076-RMAT-2023-0180. [Online]. Available: https://doi.org/10.1590/1517-7076-RMAT-2023-0180.

[3] T. de Magalhães Correia, L. P. B. de Souza, G. R. B. Ferreira, *et al.*, "Hog-cnn based evaluation of cement integrity using 2d dispersion curves from an experimental through tubing logging setup," *Geoenergy Science and Engineering*, vol. 239, p. 212 854, 2024, ISSN: 2949-8910. DOI: https://doi.org/10.1016/j.geoen.2024.212854. [Online]. Available: https://www.sciencedirect.com/science/article/pii/S2949891024002240.

[4] I. G. Camerini, L. P. B. de Souza, P. M. P. Gouvea, and A. M. B. Braga, "Mechanical strain, temperature, and misalignment effects on data communication between piezoceramic ultrasonic transducers," *Sensors*, vol. 24, no. 17, 2024, ISSN: 1424-8220. DOI: 10.3390/s24175561. [Online]. Available: https://www.mdpi.com/1424-8220/24/17/5561.

[5] I. G. Camerini, G. R. B. Ferreira, L. P. B. de Souza, *et al.*, "Machine Learning Assisted Cement Integrity Evaluation During Plugging and Abandonment Operations," Abu Dhabi International Petroleum Exhibition and Conference, vol. Day 4 Thu, October 05, 2023, D041S127R001, Oct. 2023. DOI: 10.2118/216950-MS. eprint: https://onepetro.org/SPEADIP/proceedings-pdf/23ADIP/4-23ADIP/D041S127R001/3281321/spe-216950-ms.pdf. [Online]. Available: https://doi.org/10.2118/216950-MS.

[6] G. Rezende Bessa Ferreira, P. Aida Sesini, L. Paulo Brasil de Souza, A. Conci Kubrusly, and H. Vicente Hultmann Ayala, "Corrosion-like defect severity estimation in pipelines using convolutional neural networks," pp. 01–07, 2021. DOI: 10.1109/SSCI50451.2021.9659884.

[7] R. V. D. Almeida, T. de Magalhães Correia, J. A. S. Hidalgo, *et al.*, "Analytical and numerical modeling of through-tubing acoustic logging," *Rio Oil and Gas Expo and Conference*, vol. 20, no. 2020, pp. 99–100, 2020. DOI: 10.48072/2525-7579.rog.2020.099. [Online]. Available: https://doi.org/10.48072%2F2525-7579.rog.2020.099.