Euan Russano

Curriculum Vitae

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Summary

PhD in Civil Engineering with expertise in Hydrology, Process Control, and Applied Machine Learning. Over 10 years of experience in research, data science consulting, and AI-driven problem solving. Extensive tutoring experience, having guided over 280 students worldwide (Preply, Chegg, etc) in Python, Data Science, and Machine Learning. Published author of multiple books on Machine Learning, Process Control, and Hydroinformatics.

Education

2014–2017 **PhD - Civil Engineering**, *Universität Duisburg Essen*, Essen, NRW Germany.

2012–2014 **Master of Science - Chemical Engineering**, *Universidade Federal Rural do Rio de Janeiro*, Seropédica, RJ Brazil.

2007–2012 **Bachelor - Chemical Engineering**, *Universidade Federal Rural do Rio de Janeiro*, Seropédica, RJ Brazil.

Experience - Research Projects

2017–Present **Independent Consultant/Tutor — Data Science, AI, and Python**, *Self-employed*.

- Delivered predictive models and optimization solutions for engineering, finance, and environmental problems.
- Designed and deployed machine learning pipelines (time series forecasting, NLP, control systems).
- Tutored 200+ students (Python, Data Science, ML) with personalized projects.
- Clients include engineers, startups, and research groups in Brazil, Europe, and North America.

2014–2017 **Development of grey-box models for decision making support system in flow routing**, *Universität Duisburg Essen*.

Developed grey-box models (data-driven/machine learning + white-box) for flow routing to be used in Model Predictive Control.

2012–2014 **Pressure control and minimization of fluid loss in oil well reservoirs**, *Petrobras / UFRRJ*.

Developed a dynamic control technique for the pressure control while avoiding fluid loss.

2010–2012 **Hydrogen Sulfide Scavengers: synthesis, corrosion inhibitor and flow evaluation**, *Petrobras / UFRRJ*.

Investigated the scavenger property of some chemical compounds to be used in oil-well drilling.

Technical Skills

Programming	Python, R, Java, C++, Matlab, LaTeX, Kotlin, Julia
Machine Learning	Scikit-learn, TensorFlow, PyTorch, XGBoost, NLP, Time Series, Optimization, Agno, CrewAI, Ollama
Data Science	Pandas, NumPy, SQL, Data Visualization (Matplotlib, Seaborn, Plotly), Statistics
Software	Git, Docker, Linux, Jupyter, VSCode

Languages

Portuguese	**Native**
English	**Fluent**
Spanish	**Fluent**
German	**Intermediate**

Theses

Bachelor Thesis	*Use of triazines as hydrogen sulfide scavenging agents in oil exploration.*
Master Thesis	*Loss circulation control during oil well drilling*
Doctor Thesis	*Grey-box models for flood forecasting and control*

Publications

Complete articles in Journals

2016 VEGA, M. P. ; VIEIRA, F. B. ; FERNANDES, L. D. ; FREITAS, M. G. ; RUSSANO, E. ; MARTINS, A. L. . Smart Monitoring and decision making for regulating annulus bottom hole pressure while drilling oil wells. Brazilian Journal of Chemical Engineering (ONLINE), v. 33, p. 969-983, 2016.

Books

2017 RUSSANO, E.; AVELINO, E. F. . Object-oriented modelling for Scientific Computing. 1. ed. Arcler Press, 2017

2017 RUSSANO, E.; AVELINO, E. F. . Hydroinformatics. 1. ed. Arcler Press, 2017

2018 RUSSANO, E.; AVELINO, E. F. . Introduction to Process Control. 1. ed. Arcler Press, 2017

2018 RUSSANO, E.; AVELINO, E. F. . Fundamentals of Machine Learning using Python. 1. ed. Arcler Press, 2019

Conference Proceedings

2017 RUSSANO, E.; SCHWANENBERG, D. . Multi-Step Flow Routing using Artificial Neural Network for Decision Support. In: simHydro 2017, 2017, Sophia Antipolis. Advances in Hydroinformatics, 2017.

Abstracts

2017 RUSSANO, E.; SCHWANENBERG, D. ; MONTERO, R. A. . Gray-box reservoir routing to compute flow propagation in operational forecasting and decision support systems. In: European Geosciences Union General Assembly 2017, 2017, Vienna. EGU 2017, 2017.

Presentations

2017 RUSSANO, E.; SCHWANENBERG, D. . Multi-Step Flow Routing using Artificial Neural Network for Decision Support. 2017.

2011 RUSSANO, E.; COUTINHO, M. S. ; XAVIER, G. R. ; RUMJANEK, N. G. ; OLIVEIRA, P. J. . Efeito da Quantidade de Íons Magnésio no Comportamento Viscoelástico da Mistura CMC/Amido. 2011