

Jackie Michel RAFANOMEZANTSOA

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Antananarivo, Madagascar

About me

Petroleum Engineering graduate and current Master's student with strong expertise in Artificial Intelligence, Machine Learning, and Data Analytics for oil and gas applications. I am particularly interested in intelligent drilling, wellbore stability, and data-driven optimization, aiming to address real-world challenges in Oil and Gas Well Engineering. Through the CSC Master's Program, I seek to collaborate on cutting-edge research and contribute innovative, sustainable digital solutions in petroleum engineering.

Education

École Supérieure Polytechnique (ESPA)– University of Antananarivo

- Master of Petroleum Engineering | Expected 2025

Drilling and Production Engineering

Reservoir Engineering

Advanced Petroleum Exploration

Bioenergy & New Energy

Research Methodology

- Bachelor of Petroleum Engineering | 2023

Engineering, Industrial & Petrochemical Processes

Petroleum & Mining Geosciences

Social & Environmental sciences

Advanced Math, Physics, Chemistry & Informatics

Certifications

Web and Marketing Development

- Harvard University – [CS50x: Introduction to Computer Science](#) | 2025
- Meta – [Back-End Developer Professional Certificate](#) | 2025
- Meta – [Front-End Developer Professional Certificate](#) | 2025
- Google – [Digital Marketing & E-commerce Professional Certificate](#) | 2025

Data, IA & IoT

- Google – [Data Analytics Professional Certificate](#) | 2025
- University of California, San Diego – [Introduction to Big Data](#) | 2025
- DeepLearning.AI –
[Neural Networks and Deep Learning](#) | 2025
[Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization](#) | 2025
[Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning](#) | 2025
[Generative AI](#) | 2025
- IBM – [Machine Learning](#) | 2025
- Vanderbilt University – [Prompt Engineering for ChatGPT](#) | 2025
- Orange Digital Center – Initiation into Artificial Intelligence | 2025
- Transfer Multisort Elektronik Sp. Z o.o. (TME EDUCATION) – Arduino | 2022

Energy

- TotalEnergies Professeurs Associés (TPA) – Understanding Energy – Refining – Logistic | 2025

Foreign Language & Communication

- Confucius Institute (University of Antananarivo) – HSK2, Mandarin Chinese | 2025
 - University of Washington – [Business English Communication Skills](#) | 2025
 - English Language Institute – English Speaking, High Distinction | 2022
 - Kitan'ny Ho avy – English Language | 2021
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Academic Awards

“Vatsim-pianarana RCR” Scholarship Program – Awarded in 2024 for academic excellence and potential in higher education.

Research Interests

- Intelligent Oil and Gas Well Engineering
 - Drilling Engineering
 - Drilling Security and Reliability
 - Application of Machine Learning, Deep Learning and Big Data in Drilling Engineering
 - Energy and Geo Informatics
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Technical & Personal Projects

- **Blow Out Predictor (In Progress, 2025):** Developing an AI-powered web platform to predict drilling incidents using data-driven models.
- **Little Lemon E-commerce Website (October 2025):** Designed a full-stack e-commerce site.
- **IPE M’fampizara (January 2024):** Founded a workshop offering pedagogical, linguistic, and tech support for Petroleum Engineering students at ESPA.

- **Fuel Electronic Sulfur Sensor (August 2023):** Developed a smart sensor for detecting sulfur in hydrocarbons.
 - **Bioplastics Initiative (August 2022):** Designed a sustainable prototype reducing plastic use by 40%.
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Work Experience

Petroleum Engineering Department – Ecole Supérieure Polytechnique, University of Antananarivo

Research Intern – Drilling Security and Reliability | 2024–Present

- Conducted research on drilling safety, wellbore stability, and reliability analysis.
 - Applied data-driven methods to evaluate operational risks and optimize drilling processes.
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Leadership & Volunteer Experience

Association of Students in Petroleum Engineering – Antananarivo

Academic Coordinator | 2024

- Led workshops for 50+ students in technical and linguistic subjects.
- Improved student performance and collaboration.

Community Health Center, Ambohimangakely

Volunteer Data Clerk | July 2023

- Managed patient records and supported efficient data handling.
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Personal Skills

Languages

- Malagasy: Native
- English: B2 (CEF)
- French: Fluent
- Mandarin Chinese: HSK2
- Spanish: Beginner

Communication skills

- Public speaking
- Networking, Meetings, Negotiating, Making Presentations

Marketing

- Search Engine Optimization SEO & Search Engine Marketing SEM
- Google Analytics, Social Media & Email Marketing
- E-commerce – Managing online Stores

Digital skills

- Programming – C, Fortran, SQL, Python, R, HTML5, CSS3, JavaScript
- Web development:
 - Front-End: React.js, UX/UI Design, Figma, Canvas
 - Back-End: Django, API development, Insomnia
- SQL – SQLite3, MySQL, BigQuery
- Data Science:
 - Data cleaning & preprocessing, Data manipulation & analysis, Data modeling, Data visualization & Storytelling
 - Python – Pandas, Numpy, Matplotlib, Seaborn, Scikit-Learn, TensorFlow, Keras
 - R – Tidyverse (tibble, tidyr, readr, purr, dplyr, stringr, forcats, ggplot2)
 - Big Data – Hadoop
- Control Version – Git, GitHub
- IDE – Visual Studio Code, Jupiter notebook, Spyder, Pycharm
- Productivity – Word, Excel, PowerPoint, Access, MS Project
- Drawing – AutoCAD, ArchiCAD, QGIS, ArcGIS, Surfer, PetroMod
- Energy – RETScreen

Organisational and Managerial skills

- Leadership
 - Problem solving
 - Team work
 - Methodology Agiles (Scrum, Kanban)
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Memberships

- ASPE - Association of Students in Petroleum Engineering Madagascar | from November, 2020
- YMCA Madagascar in Y-tech club, Y-English club and in Y-Social and Environmental Club | from March, 2022
- SPDF - Speaking Process and Debate Family | from July, 2023