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 Elecktronik 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

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

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 (Aogust 2023):** Developed a smart sensor for detecting sulfur in hydrocarbons.
- **Bioplastics Initiative (Aogust 2022):** Designed a sustainable prototype reducing plastic use by 40%.

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.

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.

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, Matplotib, 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)

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