DAVID MENSAH | Engineer-in-training (E.I.T)

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Education

Heriot-Watt University, Edinburgh, Scotland. September 2021 to September 2022
Master of Science (MSc), Petroleum Engineering

Dalhousie University, Halifax, NS September 2016 to May 2020
Bachelor of Engineering, Chemical Engineering

Skill Set

Software Proficiency

Microsoft Office Suite.
MS Project
Computer Modelling Group (CMG)
Python
MATLAB
QUE$TOR
Tech Log
PIPESIM
Excel VBA
Autodesk Fusion 360
AutoCAD
ASPEN HYSYS
ASPEN PLUS
Petrel Schlumberger

Certificates

Engineer in Training (EIT)
WHMIS (GHS)
Scrum Master Certification:
Scrum Methodologies
Python Data Structures
Emergency First Aid with CPR"C"AED

Languages

English - Native
Russian - Intermediate
Ukrainian - Intermediate
French - Intermediate

Work Experience

Process Scientist – Technical Operations June 2023 to Present
Biovectra, Windsor, NS

- Effectively managed the execution of two scaled-up Downstream processes, attaining the targeted outcome of a 2% concordance between pilot and manufacturing data.
- Analyzed and reviewed process data, reports for scale-up, process control, annual reviews, and investigations.
- Written technology transfer risk assessments, tech transfer protocols and summary reports for internal and external use.
- Interacted with process readiness teams for new processes and process modifications.
- Took ownership of pilot scale Batch Production Records by ensuring data collected supports the process transfer plan.
- Worked within the quality system, helped resolve CSIR or non-conformance issues with respect to production.
- Performed field tests in the pilot or production environment as required to minimize process scale up risk.
- Monitored equipment performance, recommended improvements, and provided technical support during planned and unplanned deviations.

Technical Writer February 2023 to June 2023
Biovectra, Windsor, NS

- Created 15 validation protocols, produced 25 associated reports, 6 batch production records, and developed various documentation, including 10 SOPs, essential for supporting the successful execution of projects.

Program Coordinator January 2023 to Present
Imhotep Legacy Academy, Halifax, NS

- Successfully planned, coordinated, and implemented ILA's After-School Program at the local site in Nova Scotia, demonstrating effective organizational and leadership skills.

After School Program Mentor October 2022 to January 2023
Imhotep Legacy Academy, Halifax, NS

- Managed the successful delivery of math and science After-School activities and tutorials to ILA participants at selected schools in HRM, Wolfville, Truro, Antigonish, and Sydney, impacting a diverse student body of over 100 across multiple locations.

Skill Set

Skills

Carbon Capture
Design by Experiments
Quality of Design
Material Requirement Planning
Mechanical Aptitude
Material and Energy Balance
Financial & Energy Modelling
Database Management
Project Management
Planning and Scheduling
Negotiation Skills
Self-Starter
Financial & Price Forecasting
Reservoir Management
Reservoir Simulation
Team player
Forward Curve Analysis
Research
Technical Report Writing
Well Test Analysis
Eager to Learn
Collaboration
Leadership
Enhanced Oil Recovery
Health Safety & Environment
Regulatory Compliance
Geology and Geophysics
Well Testing and Formulation
Drilling Engineering
Data Quality
Statistical techniques
Petroleum Engineering

Projects

1) Field Development Plan of a shallow marine and anticline reservoir located at the Sergipe Alagoas Basin in Brazil.

2) Studied and analyzed Carbon enhanced oil recovery and waterflooding reservoir models.

Work Experience

Petroleum Engineer - Research July 2022 to September 2022
Heriot-Watt University, Edinburgh, Scotland

- Performed statistical analysis and economic valuation on carbon pricing (Tax) and carbon trading (Cap and Trade) mechanisms on CCUS projects using Excel VBA and python. Showed that Carbon trading is favorable for setting carbon reduction targets but will increase the overall cost of a project by 16.4%.
- Created reservoir simulations and performed cost-benefit analysis (includes CAPEX, OPEX, Taxes, depreciation, royalties, and signature cost) of CO2 reservoirs for enhanced oil recovery using CMG, QUE$TOR, and Excel.
- Analyzed market trends, supply and demand dynamics and pricing mechanisms using forward curve modeling and analysis to assess project viability and risks.
- Conducted sensitivity analysis and scenario planning to assess the impact of variables on project outcomes and showed that oil price is the most sensitive parameter in terms of NPV and IRR of projects by a factor of 25.6%.

Field Development and Reservoir Engineer April 2022 to July 2022
Heriot-Watt University, Edinburgh, Scotland

- Used Monte Carlo simulation via Excel VBA to determine the probabilistic Oil-in-place.
- Examined and studied Repeater Formation Tester (RFT) data to find hydrocarbon and water contacts using Tech Log.
- Designed well casings and performed nodal analysis to improve well-performance curves using PIPESIM.
- Used python to create contour maps that aided in generating cross-sections of the reservoir for fault identification.
- Performed waterflooding simulation model using eclipse and CMG software.
- Analyzed seismic data and surveys to map geological structures beneath the earth's surface and seabed.
- Recommended equipment selection and provided estimated costs for well-completion projects.

Chemical Engineering Student September 2019 to April 2020
Acadian Sea Plant, Halifax, NS

- Designed a low-pressure superheated steam dryer (LPSSD) that dry seaweed sludge.
- Reduced the dry basis moisture content from 80% to 10% to cut daily energy consumption and to improve drying time.
- Performed a Hazard and Operability (HAZOP) and “what if” analysis on the overall drying process to ensure the safety of equipment and operators. Also drafted Standard Operating procedures for inspection and maintenance.
- Generated engineering design, drafting PFDs and P&IDs, modeling, bow tie analysis, and plant design Layout.
- Performed calculations to determine pipeline specifications and pump sizes