Samuel Adel Thabet Nashed

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Summary

Experienced petroleum engineer and machine learning researcher with over a decade of expertise in artificial lift, well stimulation, completions, workover operations, well interventions, and data analytics. Proven ability to optimize well performance, enhance production strategies, and integrate data-driven solutions for efficient field operations.

Skills

Petroleum Engineering: Well Operations | Flow Assurance | Hydraulic Fracturing Design | Well Completions | Workover | Well Interventions | Gas Lift Design | Rod Lift Design | Nodal Analysis | Acid Stimulation | Diagnostic Fracture Injection Testing | Wellsite Supervision | Vendor Evaluation | Pressure Transient Analysis | Reservoir Characterization | Reservoir Simulation

Software Proficiency:
- Reservoir Engineering & Simulation: Petrel | CMG (GEM, STARS, CMOST) | INTERSECT | KAPPA Workstation | PanSystem® | OFM
- Production & Well Modeling: Petex IPM Suite (PROSPER, GAP, MBAL, PVTP) | PIPESIM | DESIGNRITE | SROD | XROD | QROD
- Stimulation & Completions: Kinetix | GOHFER | FracPro | FracCADE | StimPlan | StimPro

Data Science & Machine Learning: Data Analytics | Python (NumPy, Pandas, Scikit-learn, XGBoost, LightGBM, CatBoost) | Classification & Regression | Clustering | Feature Engineering | Model Evaluation & Validation | Visualization (Tableau, Power BI)

Artificial Intelligence & Deep Learning: End-to-end model development with PyTorch, TensorFlow, Keras, FastAI | Deep Learning | Computer Vision | Natural Language Processing | Model Optimization (Hyperparameter Tuning, AutoML: PyCaret, Auto-sklearn, H2O, TPOT, Optuna, FLAML) | Supervised, Unsupervised & Reinforcement Learning

Work Experience

Graduate Assistant — **University of Oklahoma, U.S. | Aug. 2024 - Present**

- **Research**: Developed cutting-edge machine learning models for improved oil recovery (IOR) applications. Published +18 research papers in peer-reviewed journals and conferences, contributing to advancements in IOR applications.
- **Teaching:** Assisted in teaching advanced petroleum engineering courses (avg. 25 students/class), including Intro to Natural Gas Engineering and Management; Advanced Natural Gas Engineering; Natural Gas Finance; Low-Carbon Energy Markets; Survey of Rocks and Fluids; Integrated Asset Management; Petrochemical Value Chain; Simulation and Optimization of Natural Gas Systems.

Petroleum Engineer — **Apache JV, Egypt | Mar. 2013 - Aug. 2024**

Contributions:

- Led a hydraulic fracturing team in executing 1,000+ treatments across conventional and unconventional reservoirs, consistently driving measurable production improvements.
- Directed and designed artificial lift systems (sucker rod and gas lift), diagnosing operational issues and recommending corrective actions to optimize production and enhance system reliability.
- Led digital transformation initiatives, integrating machine learning and advanced analytics to improve oil recovery and production efficiency.
- Supervised tendering and contract management for testing equipment, completions, coiled tubing, and fracturing services.
- Prepared and oversaw completion, recompletion, DST, workover, and remedial action programs; evaluated completion fluids; and witnessed critical rig activities, including well testing, pressure surveys, and bottomhole sampling.
- Executed and evaluated cased-hole wireline operations, including cement evaluation, production logging, pipe recovery, well integrity diagnostics, perforations, and plug setting.

Selected Projects:

- Digital Solutions & Data Analytics: Spearheaded development of a machine learning–based big data platform that improved production forecasting accuracy to within a 7% error margin for sucker rod, coiled tubing and gas lift systems. This scalable solution is adaptable to unconventional reservoirs in the U.S.
- Gas Lift Optimization: Designed and implemented Egypt's first smart onshore gas lift network, boosting average well production from 100 to 250 barrels/day across 50 wells. This data-driven, scalable technology can be adapted to mature U.S. onshore fields.
- Long-Stroke Pumping Units: Introduced Egypt's first Rotaflex pumping units, reducing maintenance costs by 35%, a proven technology for mature U.S. fields.
- SAFA Formation Project: Contributed to fluid selection and optimization for fracture stimulation, performed geomechanical core analyses, calibrated geomechanical profiles, and evaluated hydraulic fractures over three years, resulting in 20% cost savings.
- Advanced Horizontal Acid Stimulation: Optimized stimulation techniques for carbonate wells using coiled tubing, fiber optics, and chemical diverters, achieving a 15% increase in well productivity; the methodology is transferable to similar reservoirs in the U.S.

Mud Logger — **Oman Sea Petroservices, Oman | Sep. 2012 - Mar. 2013**

Field Operations: Worked on Schlumberger drilling rigs for Petroleum Development Oman (PDO), analyzing drilling parameters and detecting gas anomalies to prevent safety incidents in 3 critical wells. Collaborated with international cross-functional teams to deliver insights that reduced mud logging unit downtime by 15%.

Education

- Ph.D. in Petroleum Engineering | University of Oklahoma, USA | Expected May 2029.
- M.Sc. in Petroleum Engineering | University of Oklahoma, USA | GPA: 4.0/4.0 |Expected May 2026.
- Professional Diploma in Project Management | Ain Shams University, Egypt | GPA: 4.0/4.0 |2019.
- B.Sc. in Petroleum Engineering | Suez University, Egypt | GPA: 3.7/4.0 |2011.

Selected Publications

1. O. Ejehu, R. Moghanloo, and S. Nashed, "Predictive Modeling and Simulation of CO_2 Trapping Mechanisms: Insights into Efficiency and Long-Term Sequestration Strategies," Energies, vol. 18, no. 15, 2025, doi: 10.3390/en18154071.
2. S. Nashed and R. Moghanloo, "Hybrid Symbolic Regression and Machine Learning Approaches for Modeling Gas Lift Well Performance," Fluids, vol. 10, no. 7, 2025, doi: 10.3390/fluids10070161.
3. S. Nashed and R. Moghanloo, "Replacing Gauges with Algorithms: Predicting Bottomhole Pressure in Hydraulic Fracturing Using Advanced Machine Learning," Eng, vol. 6, no. 4, Apr. 2025, doi: 10.3390/eng6040073.
4. S. Nashed and R. Moghanloo, "Benchmarking ML Algorithms Against Traditional Correlations for Dynamic Monitoring of Bottomhole Pressure in Nitrogen-Lifted Wells," Processes, vol. 13, no. 9, 2025, doi: 10.3390/pr13092820.
5. S. Thabet et al., "Machine Learning Models to Predict Total Skin Factor in Perforated Wells," in SPE Western Regional Meeting, Palo Alto, California, USA: SPE, Apr. 2024. doi: 10.2118/218838-MS.
- *Full list of publications available upon request ([Google Scholar](#))*

Awards and Service

- Peer Reviewer, Contributed +150 verified manuscript reviews for journals including Energies, Sustainability, Petroleum Exploration and Production Technology, and others published by Elsevier, Springer Nature, and MDPI.
- DeGolyer & MacNaughton Graduate Fellowship, University of Oklahoma (2025–2026) – Awarded for academic excellence in energy-related graduate studies.
- NASA Stardust@Home Project (2012) – Certified volunteer contributor in the search for interstellar dust from the Stardust mission

Certifications & Professional Development

- Earned 100+ certifications from institutions including the University of Oklahoma, Society of Petroleum Engineers, LinkedIn Learning, NASBA, CompTIA, PMI, and IIBA, covering advanced data science, AI, project management, petroleum engineering, and predictive analytics. Full list available on my LinkedIn profile.

References

- References: Prof. Rouzbeh Ghanbar Moghanloo (rouzbeh.gm@ou.edu)