Sayed Mohammad Mahdi Sadrnezhaad

Senior Quantitative Engineer — Senior Data Scientist
Nationality: Iranian — Malaysia Experience: 2014 – Present — Employment Pass Category I
Kuala Lumpur, Malaysia — (+60)183780650 — smmsadr@gmail.com
https://linkedin.com/in/smmsadr — https://github.com/smmsadr

Senior Quantitative Engineer and Data Scientist with 15+ years of professional experience, including 10+ years in Malaysia, specializing in artificial intelligence, optimization, machine learning, data systems, and cloud technologies. Experienced in developing scalable AI-driven solutions for global businesses, with strong academic background in physics, computer science, and quantum computing.

Experience

Senior Data Scientist & Quantitative Engineer Oct 2021 – Present
KINESSO, Kuala Lumpur, Malaysia

- Architect and develop AI-driven optimization platforms for global media planning and business decision support.
- Design mathematical optimization models using Pyomo, GAMS, CPLEX, IPOPT, and advanced statistical methods.
- Lead development of machine learning and generative AI solutions using Python, LangChain, LangGraph, Gemini, and cloud platforms.
- Collaborate from Malaysia with international engineering and product teams across markets to deliver scalable, production-ready tools.

Quantitative Engineer Jun 2021 – Oct 2021
KINESSO, Kuala Lumpur, Malaysia

- Enhanced cross-channel planning and optimization models for budget and performance objectives.
- Improved TV and OOH audience measurement workflows with probabilistic and optimization methods.
- Implemented solver-backed analytics services in Python and integrated them with cloud data platforms.

Quantitative Modelling Analyst Oct 2018 – Jun 2021
KINESSO Malaysia (formerly IPG Mediabrands Technologies), Kuala Lumpur, Malaysia

- Developed foundational audience and media-response models used in strategic planning workflows.
- Contributed to marketing mix and omnichannel optimization initiatives for campaign effectiveness.
- Built analytical pipelines for large datasets and supported model deployment for internal planning tools.

Quantitative Modelling Analyst Feb 2018 – Oct 2018
EXPERIS (contract employee for IPG Mediabrands Technologies), Kuala Lumpur, Malaysia

Quantitative Analyst Jan 2016 – Jan 2018
DERIV (formerly Binary Group Services), Cyberjaya, Malaysia

Linux Administration & DevOps Engineer Apr 2014 – Jan 2016
DERIV (formerly Binary Group Services), Cyberjaya, Malaysia

Linux System Administrator & DBA Jan 2011 – Mar 2014
BEHESTAN RAYAN COMPANY, Tehran, Iran

IT Manager Jan 2008 – Mar 2010
MATERIALS AND ENERGY RESEARCH CENTER, Karaj, Iran

Key Professional Contributions

- Designed and delivered AI-driven planning and optimization systems from Malaysia that support global media investment decisions across multiple markets and channels.
- Led development of production-grade optimization engines (e.g., Budget Allocation and Outcome Planner) using Pyomo, GAMS, CPLEX, IPOPT, and scalable cloud data workflows.
- Built and operationalized advanced ML/AI solutions, including multi-armed bandit bidding, semantic audience search, Bayesian audience modeling, and LLM-based planning assistants.
- Contributed to capability building within Malaysia-based technology teams by advancing adoption of machine learning, mathematical optimization, and generative AI practices.
- Published and presented research in quantum machine learning and quantum computing, strengthening Malaysia's advanced technical and research ecosystem.

Education

- **PhD Candidate (Research), Computer Science** (Quantum Computing) 2024 – Present
  University of Malaya, Kuala Lumpur, Malaysia
  Research Topic: Quantum Hybrid Language Processing
  Supervisors: Prof. Dr. Loo Chu Kiong, Dr. Liew Wei Shiung
- **MSc, Computer Science** (Computing & Machine Learning) 2023
  University of Malaya, Kuala Lumpur, Malaysia
  Thesis: Enhanced Dynamic Quantum Clustering based on Von Neumann Entropy
  Supervisor: Prof. Loo Chu Kiong
- **BSc, Physics** 2007
  Sharif University of Technology, Tehran, Iran
  Project: Analytical Solution of Heisenberg Model for one-dimensional quantum spin system
  Supervisor: Prof. Abdollah Langari

Publications

- Sadrnezhaad, S.M.M.; Chu Kiong Loo (2023). **Enhanced Dynamic Quantum Clustering based on Von Neumann Entropy**. *Quantum Machine Intelligence, submitted*.
- Sadrnezhaad, S.M.M.; Chu Kiong Loo (2019). **Quantum Machine Learning: Study of Clustering Methods**. *QNO 2019 International Conference on Quantum & Nonlinear Optics, Kuala Lumpur*.
- Sadrnezhaad, S.M.M.; Chu Kiong Loo (2018). **Enhanced Dynamic Quantum Clustering based on Von Neumann Entropy**. *QNO 2018 International Conference on Quantum & Nonlinear Optics, Kuala Lumpur; page 78*.
- Sadrnezhaad, S.M.M.; Cheraghchi, H. (2013). **Analytical Results in Coherent Quantum Transport for Quantum Dot with Periodic Time-variable Potential**. *42nd International School & Conference on the Physics of Semiconductors, Jaszowiec 2013; TuP61; page 177*.

Certifications

- **AWS Certified AI Practitioner**, Amazon Web Services 2026
- **Agentic AI**, DeepLearning.AI 2026
- **Introduction to Quantum Information**, KAIST, Coursera 2025
- **Data Science and Machine Learning: Making Data-Driven Decisions**, MIT IDSS, Greatlearning 2022

- **Artificial Intelligence and Machine Learning**, The University of Texas at Austin, Greatlearning 2020
- **Quantum Machine Learning**, University of Toronto, EdX 2019
- **Quantum Computing & Quantum Internet - Professional Certification**, TU Delft, EdX 2018
- **Joint AIS-ICTP School on Quantum Information Processing**, ICTP, NUS 2016

Skills

- **Programming Languages:** Python, R, Java, Bash, SQL, Fortran
- **Data Science:** NumPy, Pandas, Polars, SciPy, XArray, Dask, PySpark, SQLAlchemy
- **Visualization:** Matplotlib, Plotly
- **Machine Learning:** scikit-learn, XGBoost, TensorFlow, PyTorch, Reinforcement Learning, Multi-armed Bandits, Bayesian Networks
- **NLP:** Spacy, NLTK, Sentence Transformers, Transformers, Text Classification
- **Deep Learning:** CNN, Transformers, Keras, Semantic Segmentation
- **Generative AI:** OpenAI GPT, Gemini, LangChain, LangGraph, AWS Bedrock
- **Artificial Intelligence:** AI Agents, Vector Databases (Chroma), Hugging Face, Prompt Engineering
- **MLOps:** mlflow, dagster, Kubeflow, GitHub Actions
- **Development Tools:** git, PyCharm, Jupyter Notebook, Jenkins, FastAPI, Streamlit
- **Optimization Tools:** Pyomo, GAMS, CPLEX, Gurobi, IPOPT, SLSQP, COBYQA, Nevergrad (CMA-ES)
- **Mathematics:** Linear Algebra, Advanced Statistics, Monte Carlo, Time-series Analysis, FFT, Graph Theory
- **Database Technologies:** PostgreSQL, MySQL, Oracle, Snowflake
- **Infrastructure:** AWS Services, Docker, Kubernetes, HPC, Google Cloud Platform
- **Quantum Computing:** Quantum Machine Learning, Qiskit, PennyLane, IBM Quantum Lab, NVIDIA cuQuantum

References

- **Prof. Dr. Loo Chu Kiong**
  Professor, Faculty of Computer Science & Information Technology
  University of Malaya, Kuala Lumpur, Malaysia
  Academic Supervisor (MSc & PhD Research)
  Email: ckloo.um@um.edu.my — Phone: +60136229972
- **Rashmi Balakrishnan**
  General Manager
  KINESSO Malaysia
  Professional Reference / Current Management
  Email: Rashmi.Balakrishnan@kinesso.com — Phone: +60126904388
- **Graeme Pillemer**
  Director, Quantitative Engineering
  KINESSO Australia
  Technical Lead / International Project Collaborator
  Email: Graeme.Pillemer@kinesso.com — Phone: +61488221802