

# Abdullah Adnan Alali

abdullah.alali.pro@gmail.com | +966 564859922 | www.abalali.com

## SUMMARY

---

- Passionate Ph.D. holder specializing in Artificial Intelligence (AI) within the field of Geophysics.
- Experienced in conducting research and collaborating with interdisciplinary teams.
- Strong soft skills fostered through active participation in international conferences and workshops.

## EXPERIENCE

---

### SLB, KSA

#### **Research Engineer (Internship)**

2023

Developed a machine learning model (CNN) to enhance dielectric and resistivity inversion logs obtained from resistivity propagation tool in extreme conditions.

### Saudi Aramco, KSA

#### **Machine Learning Engineer (Internship)**

2021

Developed machine learning models (temporal CNN) to obtain rock properties, namely acoustic impedance,  $V_p/V_s$  and density for field seismic data, using a few wells as labels.

### King Abdullah University of Science and Technology (KAUST), KSA

#### **Full-waveform Inversion (FWI) Teaching Assistant (TA)**

2022

Prepared assignments and provided hands-on tutorials on practical aspects of implementing FWI.

#### **Seismic Imaging Teaching Assistant (TA)**

2020

Assisted students to better understand the material along with grading their assignments and exams.

## EDUCATION

---

### King Abdullah University of Science and Technology (KAUST)

#### **Ph.D. Earth Science & Engineering (Machine Learning Track)**

2023

Dissertation title: *Advances of deep learning in geophysical challenges: 4D seismic processing and salt inversion.*

Advisor: Tariq Alkhalifah.

Relevant Courses: Seismic Inversion, Computational Geophysics, Machine learning.

#### **M.S. Earth Science & Engineering**

2018

Thesis title: *Seismic Imaging and Velocity Analysis Using a Pseudo Inverse to the Extended Born Approximation.*

Advisor: Tariq Alkhalifah.

Relevant Courses: Seismology, Seismic Imaging, Inverse Problem, Data analysis in geoscience.

### King Fahd University of Petroleum and Mineral (KFUPM)

#### **B.S. Geophysics**

2016

Relevant Courses: Seismic Exploration I, Seismic Exploration II, Seismic Processing, Potential Field Methods.

### Colorado School of Mines

#### **International Exchange Program**

2014

Relevant Courses: Sedimentology and Stratigraphy, Well Logging.

## PROJECTS

- 
- **Uncertainty Quantification** 2023  
Applied a variational inference method to assess uncertainties for full-waveform inversion.
  - **Salt Body Reconstruction** 2022  
Integrated convolutional neural network into full-waveform inversion to reconstruct salt body images.
  - **Carbon Storage Monitoring** 2020  
Applied temporal machine learning models to process time series data and enhance carbon signal in the subsurface.

## PARTICIPATIONS

- 
- **Gen AI Labs** 2024  
Attended hands-on labs provided by Google Cloud for the use of the Gemini LLM model and vertex AI platform.
  - **International Conferences** 2018,2022  
Presented at various international conferences including SEG, EAGE, and MEOS-GEO conferences.
  - **SEG Machine Learning Workshop For Geoscience, Oman** 2020,2021  
Presented an oral presentation and attended presentations of machine learning applications in geoscience.
  - **KAUST-Nvidia Workshop On Accelerating Scientific Application Using GPU** 2019,2020,2022  
Hands-on in deep learning, multi-GPU, and model parallelism workshops.

## CERTIFICATES & AWARDS

- 
- Certificate in "Generative AI with large language model" from Coursera. 2024
  - Recognition for the best Ph.D. thesis in the earth science department at KAUST. 2023
  - The winner award in the 83<sup>rd</sup> EAGE annual meeting explainable artificial intelligence hackathon. 2022
  - The dean's award for outstanding students in the Earth science program at KAUST. 2022
  - Certificate in "Fundamentals of deep learning for multi-GPUs" from NVIDIA. 2021
  - The 1<sup>st</sup> place award in the KAUST GPU hackathon for accelerating scientific application. 2020
  - The winner award for a reading competition about machine learning in geoscience organized by DGS. 2020
  - Certificate in "Fundamentals of deep learning for computer vision" from NVIDIA. 2019

## VOLUNTEER EXPERIENCE

- 
- **Workshop Assistant** 2022  
Assisted in the "Entrepreneurs in Greens" workshop at the *Inaugural Annual Saudi Youth Sustainability Conference*.
  - **Artificial Intelligent Mentor** 2021  
Led a team in the *Industry Emerging Challenges Mentorship program* organized by DGS to solve an image segmentation problem in geoscience using artificial intelligent tools.
  - **Machine Learning Teaching Assistant** 2021  
Assisted in hands-on tutorials on word embedding, active learning, and transformers as part of *KAUST-Iraya unstructured data in geoscience summer school*.

## PROGRAMMING

- 
- **Languages:** C/C++, Python.
  - **Parallel programming:** OpenMP, MPI, Slurm, and worked on **Shaheen 2.0 (KAUST supercomputer)**.
  - **Machine learning:** Tensorflow, Keras and Pytorch.