

Dr. M Quamer Nasim

Data Scientist

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SUMMARY

Ph.D. graduate from IIT Kharagpur, specializing in machine learning (ML) and deep learning (DL) for **end-to-end reservoir characterization** using **seismic, wireline logs**, and borehole image logs (BHIs). About 6 years of overall industrial experience as an **AI Engineer and Researcher**, delivering multiple client projects using **Computer Vision**, **OCRs**, **Large Language Models (LLMs)**, **Retrieval Augmented Generation (RAGs)**, & **agentic AI** workflows. Seeking to utilize this expertise to solve challenges in the energy industry.

EXPERIENCE

Data Scientist *Jan 2026 – Present*
NextGen Invent, India *Remote*

- Built **CV** pipeline using **YOLO** and **RF-DETR**, orchestrated with **Apache Airflow**, implementing **data sanitization** for scalable & secure deployment.
- Integrated **PostgreSQL** logging into Airflow pipelines, tracking **inference metrics, latency**, and workflow **analytics** for **monitoring & optimization**.

AI Engineer and Researcher *Jul 2020 – Dec 2025*
Deepkapha, Netherlands *Remote*

- Led a **\$2M** Oman-based project, developing **CV** and **Transformers**-based **DL models** for **BHIs interpretation**, enabling **10x faster interpretation**.
- Led a **\$1M** US-based industry project, utilizing **CNN-Attention** hybrid and **OCR** for legacy raster well log **digitization**, reducing manual effort by **80%**.
- Introduced a **seismic domain adaptation** model to mitigate **label scarcity** & **domain shift** between **different basins**, boosting the **accuracy by 30%**.
- Designed **seismic facies segmentation** models, combining the capabilities of **ResNet**, **UNet**, and **ASPP**, improving interpretation **accuracy by 12%**.
- Devised an **unsupervised** model guided by geoscientist interaction for **FMI**-based **structural segmentation**, enabling outputs aligned with expert intent.

Doctoral Researcher *Sept 2020 – Jan 2026*
IIT Kharagpur *West Bengal, India*

- Developed an **auto-regressive vision transformer**-based DL model for **knowledge sharing** between **petrophysical parameters** for **wireline log** interpretation, achieving a **3x reduction in computational resources** used.
- Built a **DL** model for **fractures characterization** from **BHIs (FMI, CMI, & ThruBit)** with varying well orientation (**Vertical & Horizontal**), marking the first end-to-end model, achieving **30s/m** inference time & **85%** accuracy.
- Proposed a **DL** model for **stratigraphic boundary detection & well correlation**, enabling **basin independence** and **basin transferability**, with an overall **F1-Score of 88%** and total **inference time under 2.5 mins**.
- Engineered an **agentic AI** workflow with multiple specialized **AI agents** powered by **LLMs**, automating the execution of **geoscientific analysis** and synthesis of multi-modal technical reports, improving collaboration between agents and geoscientists, reducing manual handoff, and completing the **end-to-end interpretation** within **30 min** with more than **82%** Agent Accuracy.

Seismic Data Processing Intern *2019*
ONGC *Vadodara, Gujarat, India*

- Designed **2D seismic survey** & performed key processing steps, including **noise attenuation, deconvolution, velocity analysis, and migration**.

PROJECTS

- Improved a **GAN**-based closed-loop **semi-supervised** model for **high-resolution impedance inversion** utilizing **seismic, wireline log, & SGSIM** simulated data, improving the overall accuracy of the model by **17%**.

EDUCATION

Ph.D. in Geophysics & AI *2020 – 2026*
IIT Kharagpur, WB, India

M.S. (Geophysics) *2018 – 2020*
IIT Kharagpur, WB, India **CGPA: 8.4/10.0**

B.S. (Geology) *2015 – 2018*
AMU, UP, India **CGPA: 7.17/10.0**

XII *2015*
AMU, UP, India **Percentage: 73.0 %**

X *2012*
CBSE, Bihar, India **CGPA: 8.8/10.0**

SKILLS

Programming: Python, MATLAB, R, C

Framework: TensorFlow, PyTorch, FastAPI, LangChain, Llama-Index, LLMs (OpenAI, Gemini, Llama), HuggingFace

Tools: Git, Docker, Ollama, Unsloth, W&B, Tensorboard, Apache Airflow, Codex

Database: SQL, PostgreSQL, Redis, Qdrant, Weaviate

Software: CGG Geovation, OpendTect, WellCAD, Petrel (Basics), LaTeX, Overleaf

Languages: English, Hindi, Urdu

KEY PUBLICATIONS

- [Vug Quantification from BHIs](#)
- [Automated Fracture Detection in BHIs](#)
- [Petrophysical DL model in Well Log](#)
- [Digitization of the Raster Log Image](#)
- [Seismic Facies Domain Adaptation](#)

KEY CONFERENCES

- [BHIs Interpretation](#), EAGE *Norway*
- [Well Correlation](#), IMAGE *USA*
- [Upstream Agentic AI](#), ADIPEC *UAE*

CERTIFICATIONS

- Machine Learning *Coursera*
- Deep Learning Specialization *Coursera*
- SQL for Data Science *Coursera*

AWARDS & HONORS

- Roland S. Travel Support, EGU *2025*
- Travel Grant, IIT Kharagpur *2025*
- PACE Travel Grant, EAGE *2024*
- Travel Grant, IIT Kharagpur *2024*
- Fellowship, IIT Kharagpur *2022*
- Best Thesis Award, IIT Kharagpur *2021*
- Fellowship, IIT Kharagpur *2020*