



Nimatullah
Applied Geophysics
Indian Institute of Technology Bombay

22N0005
M.Sc.
Gender: Male
DOB: 18/04/2001

Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2024	7.76
Graduation	Jamia Millia Islamia	Jamia Millia Islamia	2022	8.45
Graduation Specialization: Physics				
Intermediate	CBSE	Pt. M.M.M. Sarvodya Bal Vidhyalay	2018	65.80%
Matriculation	CBSE	Govt. Boys Sr. Sec. School No. 2	2016	7.2

WORK EXPERIENCE

- **Modelling and Inversion of Cross-Well Electrical Resistivity Tomography Data**
(Guide: Prof. Anand Singh) (Dec'23-May'23)
 - Utilized synthetic modeling to **simulate CO2 injection** and spread in subsurface mediums.
 - Conducted **inversion** processes for cross-well ERT data, interpreting results for CO2 monitoring and geological investigations.
 - Conducted in-depth analysis of **model resolution** matrices to evaluate the quality of subsurface imaging results.
- **Magnetic and VLF survey for Ground Water Exploration**
(Guide: Prof. Anand Singh) (May'23-June'23)
 - Developed a deep understanding of geophysical survey methods, focusing on **magnetic and VLF techniques** and enhanced skills in data collection
 - Applied sophisticated **data processing** techniques to clean and organize raw data
 - Conducted **inversion modelling** of the processed data to extract insights about subsurface geological structures
- **Subject Matter Expert** (Coursehero and Chegg) (May'21-July'21)
 - Provided online Physics and Mathematics solutions on **Coursehero and Chegg**
 - Addressed **300+ queries**, showcasing adept subject understanding and strong problem-solving proficiency, reflecting expertise in the field
 - Maintained a helpful rating of over **90 per cent** reflects consistent positive student feedback

PROJECT

- **Low-Cost DC Resistivity Meter**
(Advisor: Prof. Anand Singh) (Aug'23-till date)
 - Addressing India's critical water scarcity by developing **affordable geophysical tools**, leveraging cost-effective components
 - Employing **Raspberry Pi 4 and Wi-Fi chip** for seamless data sharing
- **Gravity Data Analysis Project**
(Self Project) (April'23-May'23)
 - Analyzed geophysical survey **gravity data** to uncover subsurface geological structures
 - Calculated **second derivatives and derived anomaly spectrum** to analyze frequency

FIELD WORK/ TRAINING

- **Magnetic and VLF Data Collection in Ambet, Maharashtra**
(Guide: Prof. Anand Singh) (May'23-May'23)
 - Collected **magnetic and VLF data** in Ambet, Maharashtra, using a magnetometer, a VLF receiver
 - Collected **susceptibilities** of diverse rock samples, enhancing understanding of mineral composition and geological history
- **Performed Electrical Resistivity Tomography survey** (Guide: Prof. Anand Singh) (Feb'23-Feb'23)

- Performed electrical resistivity survey to collect resistivity values in **Pole-Pole configuration**
- Processed acquired data, generating a **contour plot to visualize subsurface structures**
- Performed both sounding and profiling techniques to determine the **apparent resistivity** of the section in the survey region

- **Lithological and Structural Field Work | Ambaji, Gujrat**

(Guide: Prof. Naraga Prabhakar)

(Nov'22-Dec'22)

- Learned to use instruments such as **Clinometer, Brunton compass and GPS device and interpretation of toposheets**
- Observed fresh surfaces of rocks at various sites and identified the constituent **minerals** to determine the rock type
- Interpreted numerous Meso-scale structures, such as **folds, faults, boudins, dikes, fractures and weathering patterns** at Surpagla and Taleti shear zones

POSITIONS OF RESPONSIBILITY

- **Vice President** (IGU Student Chapter, IIT Bombay) (May'23-till date)
 - Consistently guiding **50+ students** in geophysics careers through regular mentoring initiatives
 - Organizing webinars, workshops and **encouraging research** in various Geophysical branches such as Seismology, Magnetism, Geodesy, Volcanology and Oceanography.
 - Managing **social media** to engage more people, strengthening the chapter's online presence.
- **Event Coordinator** (Protolith, IIT Bombay) (Jan'23-Mar'23)
 - Organized IIT Bombay's top Earth Science event, with **200+ attendees**, our department's biggest
 - Planned and ran **three days of talks and workshops** on various geoscience topics
 - Made sure the event was fun and welcoming, focusing on **knowledge sharing and networking**
- **Web and Social Media Coordinator** (PG cult, IIT Bombay) (Jun'22-Feb'23)
 - Coordinated with the team and successfully executed one of the largest offline events on campus, PG Night, with over **2,000 attendees**
 - Promoted official social media accounts of PG Cult; increased engagement by **80 per cent**
 - Formulated promotional **strategy** for increasing social media account engagement

TECHNICAL SKILLS

- **Programming & Scripting Languages:** Python, MATLAB, LaTeX
- **Tools and Technologies:** NumPy, Pandas, PyTorch, TensorFlow, Scikit-learn
- **Machine Learning & Other Skills:** Regression, Classification, Neural Networks, CNN, Data Structures & Algorithms
- **Soft Skill:** Leadership, Teamwork, Problem solving, Decision making, Empathy, Active listening

COURSES

- 100 Days of Code: The Complete Python Pro Bootcamp by **Dr. Angela Yu** (2023)
- **Unsupervised Learning**, Recommenders, Reinforcement Learning **Stanford Online** (2023)
- **Advanced Learning Algorithms** Offered by **Stanford Online** (2023)
- **Supervised Machine Learning:** Regression and Classification Offered by **Stanford Online** (2023)
- **Unconventional Reservoir Geomechanics** offered by Stanford Online (2023)
- **Oil and Gas Industry** Operation and Market offered by **DUKE UNIVERSITY** (2022)
- Programing For Everybody Offered by **UNIVERSITY OF MICHIGAN** (2022)
- Introduction to **Python and its Application in Geosciences** by EAGE Student Chapter IITB (2022)

EXTRA-CURRICULAR

- Won **silver medal** in Department chess tournament
- Participated in **Crossy GC** conducted by IITB Sports
- Participated in Inter-Department **PG Chess GC** conducted by IITB Sports
- Participated in Intra-Department **Badminton Tournament** conducted by IITB Sports
- **Won the Intra-Department Football Tournament** conducted by Earth Science