

CURRICULUM VITAE

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Current Position: Technology Geoscientist
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Research Interests

- Combining full waveform inversion and seismic investigation to characterize the subsurface
- Adopting an integrated approach utilizing structural, geomechanical and petrophysical analyses to delineate fault-zone architecture
- Refining current concepts of fault mechanics and understanding its implications on earthquake studies
- Application of machine learning to characterize subsurface properties from seismic data and well logs
- Developing numerical models that incorporate realistic fault zone architecture and advanced mechanics-based principles to simulate the evolution of faults and associated damage zone

A. Education

Institute	Result	Percent/OGPA	Major	Year
University of Houston, U.S.A	Ph.D.		Geophysics	2024-2029
Indian Institute of Technology, MS Dhanbad, India		8.78/10 (Grade A)	Applied Geophysics	2014-2017
University of Lucknow	BS	61.56/100 (First Division)	Physics and Math's	2010-2013

B. Work Experience

November 2022 Technology Geoscientist, Geophysical Testing Centre department, **SLB (Schlumberger)**, Mumbai, India
July 2019- Nov 2022 Senior Geophysicist, Exploration and Production Department, **Oilmax Energy Pvt. Ltd.**, Mumbai, India
July 2017-July 2019 Geophysicist, Exploration and Production Department, **Oilmax Energy Pvt. Ltd.**, Mumbai, India

C. Ongoing Projects at SLB (Schlumberger)

[1]. **Commercialization of Earth Model Building (EMB-2023) plugins and seismic flow modules, Geophysics Testing Centre, Schlumberger, Mumbai, India (07/11/2022- present)**

- Completed testing of different seismic flow modules for **OMEGA** (seismic processing software) pre-release-2023, added changes in the module, and commercialized the OMEGA 2023
- Led the 2023 regression cycle for EMB plugins on the Petrel platform and completed the EMB 2023 commercialization successfully
- Mentored young talents from the university during their internships to help them complete their projects
- Delivered lecture on Geophysical Python code on the G-Talks platform (Schlumberger internal)

D. Completed Projects

- [1]. **Indrora Block, Cambay Basin (onshore), Western India (01/09/2022- 04/11/2022)**
 - Responsible for leading the research team of geologists and geophysicists to understand the petroleum system of the prospect area
 - Taught well-to-seismic tie, stratigraphic and **structural interpretation**, horizon tracking, building velocity models and domain conversion to new joiners
 - Mapped polygons on prospect locations for volumetric analysis and reserves estimation
 - Performed AVO analysis and model-based inversion studies for **reservoir characterization**
- [2]. **Rajgaon Coal Project, Chhota Nagpur plateau, Bihar, western India, (05/01/2022- 04/11/2022)**
 - Led the research on coal seam mapping and identification through seismic and well-log analysis
 - completed well-to-seismic tie, tracked horizons, and mapped faults across the block to map the coal seams for further structural interpretation and reduced the cost of drilling for Coal India Limited, India
- [3]. **Amguri Project, Assam-Arakan basin (Onshore), Eastern India, (05/01/2022- 04/11/2022)**
 - Led the seismic interpretation team to complete the project **within the deadline**
 - Completed seismic interpretation of the area and also worked with a team of geoscientists and petroleum engineers to build a geo-cellular model and increase the reserve of the area
 - Completed AVO analysis and successfully delineated new prospect locations for drilling
- [4]. **Seismic Acquisition Project, Himachal Pradesh (Onshore), North India, (11/01/2020- 06/01/2021)**
 - Built Near-surface modeling of the Himalayan foreland basin and improved the velocity model for stacking
 - Delivered field-processed seismic data to the client ONGC (Oil and Natural Gas Cooperation, Govt of India) on time
- [5]. **Charaideo Project, Assam-Arakan basin (Onshore), North-East India, (03/01/2019- 12/30/2019)**
 - Learnt well-to-seismic tie, tracking of horizons, fault mapping & modeling
 - Worked with a team of geoscientists and petroleum engineers to build a geo-cellular model for reserve calculation
- [6]. **Seismic Acquisition Project (Onshore), Tanot, Rajasthan, North-West India, (11/01/2018- 06/30/2019)**
 - Learned about outcrop investigation and seismic data acquisition by working with a team of geoscientists
 - Performed field seismic processing (SeisSpace processing software) and also built a near-surface model of the block
- [7]. **Duarmara Project, Assam-Arakan basin (Onshore), North-East India, (07/03/2016-03/30/2018)**
 - Learned seismic interpretation by working with a team of Geoscientists
 - Gained hands-on experience with Petrel, Decision Space, Kingdom, and Hampson Russell Software

E. Internships

- [1]. **Seismic Acquisition and Processing, Madhya Pradesh, Central India, (05/01/2017- 07/01/2017)**
 - Learnt Seismic acquisition designing and **outcrop studies** before carrying out the seismic acquisition
 - Gained hands-on experience with reflex software (used for Uphole survey data analysis)
- [2]. **Analysis of surface wave dispersion on the Nepal earthquake, Wadia Institute of Himalayan Geology, Dehradun, India (Department of Geophysics), (05/01/2015-07/01/2015)**
 - Completed mapping of **paleo-earthquake** epicenters
 - Gained hands-on experience with Seisan earthquake wave analysis software

F. Field Trips

- [1]. **Raniganj Jharia coal mines – Jharkhand, Eastern India, (15/12/2014- 31/12/2014)**
 - Structural mapping of coal seams and faults

- Prepared a geological report of the area
- [2]. **Uranium Corporation of India Limited (UCIL) - Jharkhand, Eastern India, (15/12/2017- 31/12/2017)**
- Completed Structural mapping, seismic survey, EM (Electro-Magnetic) survey, and gravity survey of sulfide ores under the guidance of Prof. Shalivahan Srivastava
- Prepared a field report of the area
- Chief Treasurer of the field trip

G. Master's Thesis

- [1]. Petrophysical modeling using well-log data (porosity, water saturation, and velocity logs) - Assam- Arakan Basin (North-East India), Supervisor: Late Prof. Rima Chatterjee, Indian Institute of Technology (formally Indian School of Mines), India. **(Grade B+)**

H. Software Skills

- **Software:** Petrel, Kingdom suite, Decision Space, Hampson Russell, SeisSpace, Omega (processing)
- **Language:** Python, C++, basic knowledge of APIs (POSTMAN), ML, SQL, Linux, Microsoft Azure

I. Certificates

- [1]. **Seismic Interpretation course**, Degreed, SLB, no expiration
- [2]. Seismic Processing course, Degreed, SLB, no expiration
- [3]. **MATLAB course**, IIT (Indian Institute of Technology), Dhanbad, India, no expiration
- [4]. **Python course**, Techgen Institute, Mumbai, India, Grade-A, no expiration
- [5]. REST APIs with Postman for Absolute Beginners, Udemy, no expiration
- [6]. Deep Learning Prerequisites: Linear Regression in Python, Udemy, no expiration
- [7]. Complete Agile Scrum master certification training, Udemy, no expiration
- [8]. The complete SQL Boot camp, Udemy, no expiration
- [9]. Software development life cycle, Udemy, no expiration
- [10]. Microsoft Excel: from beginner to advanced, Udemy, no expiration
- [11]. Microsoft Azure: from beginner to advanced, Udemy, no expiration
- [12]. Data Analysis concepts, soft skills, no expiration

J. Academic Achievements

- [1]. Among the Top 1 percent of students at IAPT (Indian Association of Physics Teacher's Exam), University level
- [2]. Topper of National Mathematics Olympiad (High School)

K. Positions of Responsibility

- [1]. Mentoring freshers/interns in seismic processing and interpretation
- [2]. Led seismic acquisition team for the company
- [3]. Led seismic interpretation team of 3 members
- [4]. Project coordinator, Seismic Acquisition Project (2017-2018) for Oilmax Energy Pvt. Ltd
- [5]. Event-Coordinator, GeoConfluence'16, a geotechnical fest of the Department of Applied Geophysics, sponsored by SEG, EAGE, SPG, Cairn India, and ONGC (SESSION 2015-2016)
- [6]. Event Treasurer, Society of Petroleum Geophysicists (SPG) - ISM Student Chapter (2015-17)
- [7]. Vice-captain of the master's football team at IIT, 2016-2017