

Mohammed Arsh Raza

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Education

Indian Institute of Technology (Indian School of Mines), Dhanbad

Oct 2022 – May 2027

B.Tech in Computer Science and Engineering + B.Tech in Chemical Engineering (GPA: 8.91 / 10.00)

Dhanbad, Jharkhand)

Kendriya Vidyalaya Gomtinagar

2020-2021

Senior Secondary Education (CBSE Board)-Percentage 96.0%

Lucknow, Uttar Pradesh

Kendriya Vidyalaya Gomtinagar

2018-2019

Secondary Education (CBSE Board)-Percentage 94.8%

Lucknow, Uttar Pradesh

Projects

User Behaviour and Content Simulation | BERT, CLIP, TensorFlow, Hugging Face, Pandas

[GitHub](#)

- Developed machine learning models using TensorFlow and NLP techniques to predict user engagement metrics—achieving 88% accuracy—and generated KPI-optimized content, increasing average user interactions (likes, shares, comments) by 40%
- Built a data pipeline using the Twitter API, Tweepy, and Pandas to collect and preprocess over 100,000 tweets with image metadata, reducing data handling time by 50% and enabling scalable analysis for downstream machine learning tasks.

Natural Disaster Image Detection and Segmentation | OpenCV, Pandas, PyTorch, YOLOv7, Matplotlib

[GitHub](#)

- Deployed convolutional neural networks (CNNs) to identify and segment damaged infrastructure elements from satellite imagery with 95% accuracy, enabling faster disaster response and resource allocation by 60%.
- Trained on diverse dataset encompassing different disaster scenarios, enabling it to generalize and adapt to various environmental conditions.

Mars Crater detection | OpenCV, Pandas, Tensorflow, Scikit-learn

[GitHub](#)

- Developed and trained a convolutional neural network (CNN) to accurately detect and classify Martian surface craters from satellite imagery, achieving 96% precision and supporting automated planetary surface analysis.
- Enhanced model performance by expanding the training dataset 3x through image augmentation techniques such as grayscale conversion, brightness/contrast adjustments, and random cropping—resulting in a 20% boost in validation accuracy and improved generalization.

Technical Skills

Programming Languages: Python, C, C++, SQL, JavaScript, MATLAB

Core Concepts: Data Structures and Algorithms, Object-Oriented Programming (OOP), Operating System

Data Science Tools: Pandas, NumPy, Matplotlib, Seaborn, Tableau

Frameworks and Libraries: TensorFlow, PyTorch, Keras, Hugging Face, LangChain

Tools and Version Control: Git, GitHub

Computer Vision: OpenCV, Pillow, Albumentations

Simulation and Modeling: Simulink, Aspen Plus

Certificates

Certificate in MATLAB Onramp Mathworks Training Services

[Link](#)

Certificate in Simulink Onramp Mathworks Training Services

[Link](#)

Achievements

- All India Rank(AIR) 439 in GATE Chemical Engineering 2025
- First Runner up at Cosmoligence, an Inter College Competition during Concetto 2023 The Annual Techno-Management Fest of IIT(ISM) Dhanbad
- Second Runner up at AI of GOD, an Inter College Competition during Concetto 2023 The Annual Techno-Management Fest of IIT(ISM) Dhanbad