ABHISHEK LAKHERA

EDUCATION

IIT Kharagpur   **2027**
M.TECH Dual Degree 5Y
- **GPA:** 7.12 / 10

Govt. Excellence Hr. Sec. School, Satna   **2022**
Class XII   *Satna*
- **GPA:** 93.4%

Scholars' Home Hr. Sec. School, Satna   **2020**
Class X   *Satna*
- **GPA:** 96%

INTERNSHIPS

Cubical Frames   **Nov 2025 - Dec 2025**
Artificial Intelligence Intern
A multilingual speech-to-text and counsellor analytics pipeline assisting transcription and conversational quality assessment
- Assisted in developing a Streamlit-based chat-analyzer app focusing on sentiment tagging and score-based counsellor evaluation, and visualized insights in Power BI dashboards.
- Integrated AssemblyAI API for multilingual transcription, achieving 90–92% accuracy through prompt tuning and preprocessing.
- Evaluated and improved transcription quality by analyzing linguistic accuracy and code-mixed speech handling across audio datasets using Python and SQL queries.
- Explored Whisper model fine-tuning for domain-specific speech recognition, documenting performance metrics in Excel to support future model optimization.

PROJECTS

Predicting DON in Corn Using Spectral Data   **May 2024 - Jun 2024**
- Built a data-driven regression pipeline to predict DON concentration in corn using dimensionality reduction and neural networks
- Preprocessed high-dimensional spectral data using NumPy, Pandas and scikit-learn, performed normalization and exploratory analysis
- Applied PCA to reduce dimensionality, preserving 95% variance, and used t-SNE for class separability and to validate signal quality
- Built and trained FNN using TensorFlow, achieving MAE score of 0.38 and RMSE score of 0.49, outperforming CNN
- Captured spectral locality with the 1D Convolutional Neural Network architecture, which achieved a higher R^2 score of 0.72

Data-Driven Product Recommendation System   **Nov 2024 - Dec 2024**
- Built an end-to-end recommendation pipeline to generate personalized product suggestions using filtering models
- Merged and cleaned multi-sheet Excel data using pandas for unified analysis and machine learning readiness
- Simulated SQL to calculate sales KPIs, identify product bundles, and flag resellers with declining trends
- Built and evaluated collaborative, content-based, and hybrid recommenders using KNN and similarity metrics
- Created revenue trends, customer segments and product bundle dashboards using Seaborn, Matplotlib, and Plotly

Potato Disease Classification Using CNN   **Jan 2025**
- Developed an image-based deep learning pipeline to classify potato leaf diseases using convolutional neural networks
- Developed a CNN model achieving 95% accuracy, classified potato leaf diseases using TensorFlow and image augmentation
- Implemented image preprocessing and evaluated model performance with a confusion matrix and classification report for robust validation

SKILLS AND EXPERTISE

- **Programming Languages**: Python, C, SQL, HTML, CSS, JavaScript, C++, Arduino
- **Software Tools**: MySQL, Visual Studio, Microsoft Office, Jupyter Notebook, Power BI, MATLAB, SolidWorks, FreeCAD
- **Frameworks and Libraries**: NumPy, Pandas, Matplotlib, TensorFlow, PyTorch, Scikit-learn, Transformers, Keras, OpenCV, XGBoost

POSITIONS OF RESPONSIBILITY

Awaaz, IIT Kharagpur   **Aug 2024 - Jun 2025**
Sub-Editor
- Wrote editorials and columns like Know Your Professor, Know Your Entrepreneur, and Jewels of KGP.
- Managed the team of Reporters and published insights on the concerns of the campus student community.
- Interviewed noted persona, co-authored compelling articles, and newsletter with distributing 4K+ physical copies.

Nehru Hall of Residence, IIT Kharagpur   **Sep 2023 - Apr 2024**
Secretary Fine Arts
- Assisted the General Secretary Social and Cultural to managing the budget, logistics, and workshops for Fine Arts.
- 2 Golds and 1 Silver secured in the Fine Arts Cup of the General Championship Social and Cultural 2023-24.