

AKANKSHA

+91-7762972654 02akanksha2021@gmail.com

Skills

Programming: Python, C++, MATLAB

AI/ML: Machine Learning, Deep Learning, NLP

Frameworks/Libraries: PyTorch, TensorFlow, Scikit-learn, Hugging Face, NumPy, SciPy, Pandas, Astropy

Tools: GitHub, VS Code, LaTeX

Experience

Research Intern

Sept 2025 – April 2026

Aryabhata Research Institute of Observational Sciences (ARIES)

Python, PyTorch

- Developed a deep learning pipeline for interferometric image reconstruction using Variational Autoencoders (VAE).
- Integrated Fourier-based forward modeling to simulate visibility data from latent-space representations.
- Reduced χ^2 visibility reconstruction error by **30–40%** through latent-space optimization.
- Improved reconstruction quality by enhancing structural similarity and reducing noise artifacts.
- Trained on **10,000** simulated FITS samples for robust model generalization taken from AMHARA.

Cisco AICTE Virtual Internship

May 2023 – June 2023

Cisco Networking Academy

Packet Tracer

- Designed and simulated network topologies and performed troubleshooting using Cisco Packet Tracer.
- Gained understanding of network security, threat detection, and system configuration.

Projects

Interferometric Source Morphology Classification | *Python, ML*

2025 – 2026

- Built an end-to-end pipeline to simulate optical interferometric observations and generate OIFITS data.
- Extracted features including visibility statistics, FFT power, and closure phase.
- Trained a Random Forest classifier achieving **95% accuracy** across 7 source classes.
- Implemented scientific data processing using NumPy, SciPy, and Astropy.

Meeting Minutes Summarizer | *NLP, Transformers*

2025

- Developed an NLP-based summarization system using BERT, T5, and Hugging Face Transformers.
- Implemented topic modeling and sequence-to-sequence learning for structured summarization.
- Created annotated datasets and improved model performance through supervised learning.

Iris Classification Model | *Machine Learning*

2024

- Built classification models using KNN, Logistic Regression, and Decision Trees.
- Achieved **98.3% accuracy** on benchmark dataset using Scikit-learn.

Certifications

- Machine Learning to Deep Learning: Remote Sensing Data Classification – ISRO

Achievements

- Participated in Bharatiya Antariksh Hackathon – Lunar Landslide Detection using Chandrayaan data (ISRO)

Education

M.Tech in Artificial Intelligence

2024 – 2026

Indian Institute of Technology, Patna

CGPA: 7.86

B.Tech in Computer Science Engineering

2021 – 2024

Darbhanga College of Engineering

CGPA: 8.54

Diploma in Computer Science Engineering

2018 – 2021

Government Polytechnic Saharsa

CGPA: 8.80