MIRSHA A. K.

Full Stack Software Developer
Machine Learning & Deep Learning Engineer
AI-Powered MLOps & Data Science Developer

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IIT Bombay, Tirupati
FOSSEE Hackathon
(Feb 2023 - June 2023)

PROJECT EXPERIENCE   *Portfolio Website:* *mirshamorningstar.github.io/portfolio-website*

International GIS and Data Science Hackathon by IIT Bombay and IIT Tirupati (AI, IOT, PowerBI) | **GitHub link**
- Led IIT Bombay FOSSEE Mapathon 2023, developed 4 AI - informed healthcare and safety maps for Nilgiris.
- Executed Geospatial Data Collection, Spatial ETL, Multi-layer raster analysis, AIoT-based network modeling to simulate improvements in existing emergency response times and infrastructure planning.

AgroNexumLive - Full Stack Agritech Platform (Flask, SQLAlchemy, MySQL) | **Live link** | **GitHub link**
- Developed a secure production-grade agritech platform with email automation, multi-role access, DB triggers.
- Optimised non-redundant relational schema and improved access speed by ~30% for seamless user operations.

End-to-End AI-Powered ML Optimization App (Python, ML, AI, Streamlit) | **Live Link Streamlit** | **GitHub link**
- Developed and Deployed a full-stack ML app for ETL, Data Analytics, Feature Engineering, Hypothesis Testing, Hyperparameter Optimisation, achieved 98.7% accuracy across 25+ ML Models and 30% faster data pipelines.

ACCOMPLISHMENTS AND ACHIEVEMENTS:

- **IIT Bombay FOSSEE Mapathon 2023 (AIR - 5 CHAMPION / 1780+ Teams) :** Led a transformative project on *AI-Informed Illustrious Thematic Maps creation*, utilized Advanced Data Science, Analytics, and Visual Representation Techniques to enhance the infrastructure and quality of life in the Nilgiris region. **(Award Link)**
- **AU - TVS Q'Quest 2023 National Paper Presentation: (Third Prize) :** Demonstrated a real-world case study on "Cybernated Road Network Management (CRNM)", proposed Sustainable AIoT solutions, innovations in road management, minimizing accident cases by about 30% through data-driven solutions. **(Award Link)**

SKILLS

- **Programming and Database :** Python, MySQL, SQLite, SQL Alchemy ORM, MongoDB
- **Web Application Development :** Flask, HTML, CSS, JavaScript, Bootstrap
- **Data Science & Visualization :** Scikit-learn, Pandas, NumPy, Matplotlib, Seaborn, Plotly, Streamlit, Power BI, QGIS
- **Machine Learning :** Feature Engineering, Predictive Modeling, Model Evaluation, Optimization Techniques
- **Deep Learning & Computer Vision :** OpenCV, CNN, VGG, GAN, LSTM, Autoencoder, Encoder-Decoder (Seq2Seq)
- **Deployment & MLOps :** Streamlit, Docker, Model Versioning-Tracking (MLflow, W&B), Full Stack Data Science
- **Core CS Concepts :** Data Structures and Algorithms, DBMS, OOPS, OS, Computer Networks, Information Retrieval
- **Design & Presentation Tools :** Figma, Canva, MS Office Tools, Google Docs/Sheets/Slides
- **Soft Skills :** Cross-functional Collaboration, Strategic Analysis, Problem Solving, Communication and Ideation

CERTIFICATES OF PROFICIENCY

AWS Academy Graduate - AWS Academy Cloud Foundations **Certificate link**   **Grades link**

Microsoft Power BI Data Analyst (PL-300 CERTIFICATE) **Certificate link**

INTERNSHIP EXPERIENCE

Harpy Aerospace Private Limited, India (Artificial Intelligence and Machine Learning) **Certificate link**
(June 2024 - July 2024)

EDUCATION

B.Tech - Bachelor of Technology in Artificial Intelligence and Data Science (pursuing)   **2022 - 2026**

Anna University, Madras Institute of Technology Campus

CGPA : **8.9**   98 % in 12th HSC exam (**588 / 600**)

(Major in Artificial Intelligence, Full Stack Data Science, Machine Learning and Deep Learning Operations.)

SUMMARY

An Inspiring and Results-Oriented Full Stack Developer and AI Strategist with expertise in Data Science, Machine Learning Operations and Deep Learning. Adept at leveraging Python, SQL, and cutting-edge MLOPs techniques to drive intelligent, scalable solutions. Known for Strategic Problem-Solving, Visionary Thinking, and Collaborative Excellence, offering a unique blend of innovation and execution across data-driven and full stack projects.