

ABIN SANAL

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Professional summary

Motivated AI/ML Engineer (Fresher) with strong foundations in Python, machine learning concepts, and AI development techniques. Hands-on experience in building and evaluating ML models using NumPy, Pandas, Scikit-learn, TensorFlow, and PyTorch. Knowledgeable in data preprocessing, feature engineering, supervised/unsupervised learning, and model evaluation metrics. Recently explored Large Language Models (LLMs), Hugging Face, Retrieval-Augmented Generation (RAG), and AI agent workflows. Passionate about applying ML for real-world use cases such as recommendation systems, anomaly detection, and process automation.

Projects

1. IPL Fantasy Team Prediction System – Python, Flask, Scikit-learn

- Built supervised ML models (RandomForest, CatBoost, XGBoost) to predict optimal fantasy teams. Applied feature engineering & SHAP
- Explainability to optimize prediction accuracy (~80%).
- Automated team selection using linear programming optimization and deployed via Flask.

2. Eye Disease Detection System – Python, TensorFlow, OpenCV

- Developed a CNN deep learning model to classify early-stage eye diseases.
- Achieved 85%+ accuracy with dropout regularization and hyperparameter tuning.
- Designed a Flask-based interface for real-time predictions.

3. Netflix Movies & TV Shows Clustering – Python, Pandas, Scikit-learn

- Performed EDA on 8,000+ titles to analyze global streaming trends.
- Implemented unsupervised learning (K-Means, TF-IDF features) for recommendation grouping.
- Visualized clusters using Matplotlib & Seaborn.

4. Online Mechanic Finder Website – Flask, SQL

- Designed and deployed a full-stack web app with authentication, booking, and service search.
- Conducted model evaluation & validation for user-service recommendations.

Experience

Machine learning engineer-Labmentrix,banglore(current)

Machine Learning Intern – Nestsoft Technologies, Infopark (3 months)

- Assisted in developing supervised ML models for predictive analytics.
- Hands-on with data preprocessing, model validation, and performance metrics.
- Exposure to AI model deployment workflows.

Data Analyst Intern – Labmentrix (2 months)

- Conducted data cleaning, preprocessing, and dashboard validation.
- Improved data quality and reporting efficiency by 20% using SQL and visualization tools.

Education

Master of Computer Applications (MCA) – Chinmaya Institute of Technology, Kannur University (2023–2025)

Bachelor of Science in Mathematics – Govt. College Perigome, Kannur University (2020–2023)

Higher Secondary Education – Govt. Higher Secondary School, Prapoyil (2018–2020)

Certification

- Cyber security with AI -Internshala
- Python Full Stack Developer – Udemy
- Internship in Machine Learning – Nestsoft Technologies
- Internship as Data Analyst – Labmentrix

Technical Skills

Programming & Libraries: Python, NumPy, Pandas, Scikit-learn, Matplotlib, Seaborn, ML/DL Frameworks: TensorFlow, Keras,

Concepts: Supervised & Unsupervised Classification, Regression, Overfitting

AI Tools: LLMs, Retrieval-Augmented Generation (RAG), AI Agent Workflows

Use Cases: Recommendation Systems, Fraud Detection, Anomaly

Detection, Process Automation Other Tools: Power BI, Flask, Streamlit, GitHub, Jupyter Notebook Databases: PostgreSQL, SQLite

Soft Skills

Problem-Solving

Test Documentation

Team Collaboration

Communication

Critical Thinking