Alen K Aji Software Engineer

PROFESSIONAL SUMMARY

Computer Science engineering student with hands-on experience in developing ML models for healthcare and environmental forecasting. Proficient in Python, with working knowledge of TensorFlow and PyTorch. Skilled in end-to-end ML pipelines, from data preprocessing to deployment. Passionate about building data-driven solutions with real-world impact.

EXPERIENCE

Artificial Intelligence Intern, *AICTE - Edunet Foundation*
06/2025 – Present | Ernakulam, India

- Developing an e-waste image classification model using EfficientNetV2-B0, achieving 95% validation accuracy for sustainable tech solutions.
- Currently optimizing data pipelines and exploring lightweight, robust alternatives like MobileNetV3, ConvNeXt-T, or GhostNet to enhance efficiency and deployment readiness.

Machine Learning Intern, *ReverTech IT Solutions*
01/2025 – 01/2025 | Kaloor, Ernakulam, Kerala

- Built and deployed a Gradient Boosting Machine model for flood prediction using scikit-learn, achieving 94% test accuracy with optimized workflows and hyperparameter tuning.
- Reduced model complexity by 30% through efficient feature selection while maintaining 90%+ accuracy, enabling faster and more reliable inference.

PROJECTS

LeafScan: Plant Disease Detection Using Deep Learning
06/2025

- Tackled crop loss due to delayed disease detection by building an AI-driven diagnosis system using MobileNetV2 and focal loss.
- Achieved 91% accuracy across 38+ plant diseases, enabling instant, accessible predictions through a Streamlit web app.

Movie Genre Classification Model
04/2025

- Developed a scalable system to address inconsistent movie genre classification by combining Random Forest and BERT-based models on plot summaries.
- Achieved up to 67% accuracy across 20+ genres while reducing feature dimensionality by 20% using optimized TF-IDF and BERT encoding

Neural Network for Biomarker Prediction in Cancer Immunotherapy
01/2025 – 04/2025

- Built a deep learning model using PyTorch and TensorFlow to predict CTLA4-pathway gene mutations from RNA-seq data, achieving an AUC-ROC of 0.71, aiding immunotherapy stratification.
- Reduced feature space by 99% using gradient-based attribution to identify top gene biomarkers, improving interpretability and enabling faster biological validation.

Flood Prediction Model

- Developed a flood prediction system using Gradient Boosting and Random Forest, achieving 94% classification accuracy on environmental data.
- Evaluated performance with MSE: 0.0001, RMSE: 0.0119, MAE: 0.0093, and R2 Score: 0.933, along with visualizations for feature importance and geolocation mapping.

CONTACTS

LinkedIn

Github

Website

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EDUCATION

BTech in Computer Science Engineering,
Mar Athanasius College of Engineering
10/2022 – 04/2026

COURSES

Programming, Data Structures & Algorithms using Python
NPTEL
03/2023

AI/ML Course
IIT GUWAHATI
03/2025 - Ongoing

RESPONSIBILITIES

ENCIDE,
Sponsorship Team Lead

Training and Placement Cell, *Volunteer*

SKILLS

Machine Learning, Python, Scikit-learn, TensorFlow, PyTorch, Data Cleaning, Feature Engineering, Model Deployment, Communication, Data Analysis, Data Visualisation, Excel