Arin Balyan

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leetcode.com/u/arinbalyan | Codilio

Education

Vellore Institute of Technology, Bhopal, MP   CGPA: 8.27/10
Bachelor of Technology in Computer Science, Specialization in AI & ML   *September 2022 – June 2026*

Projects

AgroAid | Python, TensorFlow, Scikit-learn, Flask   Link
ML-Powered Agricultural Assistant

- Implemented ensemble methods (Random Forest, XGBoost) for crop yield prediction using 1M+ agricultural records, achieving 15% improvement over baseline models
- Developed crop recommendation system using collaborative filtering and content-based approaches, validated through 5-fold cross-validation
- Applied feature engineering on weather, soil, and historical yield data, handling missing values and outliers using statistical imputation
- Deployed ML models using Flask API with 99.9% uptime, serving 500+ daily predictions
- Integrated multilingual voice assistant to increase accessibility for farmers in rural areas

EmotionML | FastAPI, PyTorch, React.js   Link
Real-Time Emotion Recognition Platform

- Engineered a scalable FastAPI backend serving 9 pre-trained PyTorch models for real-time facial emotion detection, supporting 3 datasets (FER2013, RAF-DB, CK+48) and 3 CNN architectures (MobileNetV2, ResNet50, VGG19)
- Achieved robust model performance, with VGG19 reaching 98.99% accuracy on CK+48 and 80.28% on RAF-DB, and MobileNetV2 optimized for real-time inference on resource-constrained devices
- Designed RESTful APIs for seamless integration with a React frontend, enabling instant emotion prediction from user-uploaded images and returning top emotion with confidence scores
- Implemented automatic model loading, caching, and GPU acceleration, ensuring low-latency inference and efficient resource utilization
- Developed comprehensive error handling, logging, and CORS support, making the backend production-ready and easily integrable with modern web applications

Experience

Ethnus MERN Stack Developer Intern   January 2025 – April 2025
Remote
* Completed an internship-certified full-stack training program under Ethnus, focusing on MERN technologies.
* Developed a full-fledged Job Board Web Application with separate recruiter and student login portals, job listing and application features, and secure authentication workflows.
* Built a responsive frontend in React.js and backend in Express.js, with MongoDB integration and RESTful API design while gaining hands-on experience in deploying full-stack apps and managing project repositories using Git.

GirlScript Summer of Code – Contributor   October 2024 – November 2024
Remote
* Selected as an open-source contributor among national applicants for GSSoC 2025.
* Participated and contributed to open-source projects via GitHub, enhancing collaborative coding and version control skills.

Certifications

Applied Machine Learning in Python - University of Michigan, Coursera   Score: 93.69%
Ethnus MERN Full-stack Developer Certification - Ethnus   Score: 90%
IBM Blockchain Developer Certification Program - IBM   Score: 86%

Technical Skills

Languages: Python, C/C++, JavaScript, SQL
Machine Learning: Scikit-learn, TensorFlow, PyTorch, Keras
Data Analysis: NumPy, Pandas, Matplotlib, Seaborn, Plotly, Jupyter
Web Frameworks: React.js, Express.js, Django, Flask
Cloud Platforms: AWS, Google Cloud Platform
MLOps: Docker, Git, Model Deployment
Databases: MongoDB, Firebase, MySQL, PostgreSQL
Soft Skills: Leadership, Teamwork, Presentation, Adaptability, Problem-Solving, Critical Thinking