Arin Balyan

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Experience

BrilliED | Full-Stack AI Engineer Nov 2025 – Present
FastAPI, Python, Vue.js, PostgreSQL, Docker, LangChain, CI/CD *Remote*

- Architected production full-stack platform (brillied.in) serving 400+ paid users and 2,000+ daily visitors across 5+ countries (USA, Canada, UAE, India, Middle East) with 99.8% uptime.
- Built LLMs and RAG system using LangChain generating 500+ User docs every week with 92% accuracy, reducing content creation time by 85% through intelligent automation workflows.
- Optimized PostgreSQL queries and implemented Redis caching, achieving <900ms page load time on slow 4G and improving API response times from 800ms to 180ms (77% reduction).
- Developed admin dashboard with real-time KPIs tracking user metrics, revenue analytics, and system health; established CI/CD pipeline with GitHub Actions achieving 95% test coverage.

Education

Bachelor of Technology Computer Science (AI & ML Specialization) 2022 – 2026
Vellore Institute of Technology *CGPA: 8.37/10*

Higher Secondary Education (Class 12) | CBSE Board 2022
ML Sr. Sec. School, Narela, Delhi *CGPA: 9.60/10*

Projects

EmotionML | Real-Time Emotion Recognition Platform Jul 2025 – Aug 2025
PyTorch, FastAPI, React.js, Docker, Model Optimization *Link*

- Trained 9 CNN architectures on 35,000+ images achieving 98.99% accuracy on CK+48 dataset, outperforming baseline models by 12% through systematic hyperparameter tuning and data augmentation.
- Optimized MobileNetV2 using quantization and pruning, reducing model size by 60% (23MB to 9MB) and inference latency by 40% (250ms to 150ms), enabling deployment on edge devices with 512MB RAM.
- Built production FastAPI backend with GPU acceleration processing 1,000+ images/hour, scaling from 10 to 30 req/sec and supporting 50+ concurrent users with <200ms p95 latency.
- Designed responsive React.js interface with real-time predictions achieving 95% user satisfaction from 30+ beta testers and reducing task completion time by 70% through intuitive UX design.

AgroAid | ML-Powered Agricultural Assistant Nov 2024 – Feb 2025
Python, XGBoost, Flask, Docker, PostgreSQL *Link*

- Developed ensemble model combining Random Forest, XGBoost, and Linear Regression with stacking meta-learner achieving 89% accuracy on crop yield prediction using 3 government agricultural datasets (50,000+ records).
- Engineered feature pipeline integrating soil quality, weather patterns, and historical yield data from government sources, improving model performance by 15% through domain-specific feature engineering.
- Deployed Flask REST API serving 200+ requests/day with 96.5% uptime and <500ms response time; implemented PostgreSQL database with query optimization reducing data retrieval time by 60%.
- Built multilingual recommendation engine supporting 5 languages (Hindi, English, Tamil, Telugu, Kannada) serving 500+ daily queries in Agile environment with 90%+ code review approval rate.

Technical Skills

Programming: Python, C++, SQL, JavaScript
ML/DL Frameworks: PyTorch, TensorFlow, Keras, Scikit-Learn, XGBoost
Deep Learning: CNNs, LSTMs, Transfer Learning, Model Optimization
MLOps & DevOps: Docker, CI/CD, Model Deployment
Data Processing: NumPy, Pandas, Feature Engineering
Backend: FastAPI, Flask, REST APIs
LLM/AI: RAG, LangChain, Langraph
Databases: PostgreSQL, MySQL, Redis
Cloud/Tools: AWS, Git, GitHub Actions

Courses

Applied Machine Learning in Python - University of Michigan, Coursera Score: 94%
Ethnus MERN Full-stack Developer Certification - Ethnus Score: 90%

Achievements & Leadership

- Secured Top 10 rank at **IIM Nagpur's** Arthneeti 4.0 case competition among 200+ teams, leading comprehensive market analysis and strategic business planning presentation.
- Achieved Top 25 global ranking at **Zelestra x AWS Hackathon** among 500+ participants, building production-ready ML solution under 48-hour time constraint.
- Active open-source contributor through **GSSoC** with 50+ merged PRs across multiple repositories, collaborating with developers on Python ML libraries and web frameworks.