

Mohammad Alhan Bellary

Applied AI / Machine Learning Engineer

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PROFESSIONAL SUMMARY

Applied AI/ML Engineer (Computer Vision, NLP & Classical ML) with strong mathematical foundations, hands-on PyTorch and Scikit-learn experience, and algorithmic depth (NeetCode 150). Built quantized vision models and tracked anomaly detection pipelines.

TECHNICAL SKILLS

Machine Learning & Deep Learning: PyTorch, TensorFlow, Keras, Scikit-learn, XGBoost, CNNs, LSTMs, Transformers

Computer Vision & NLP: OpenCV, YOLOv8, ResNet, Albumentations, Object Detection, spaCy, NLTK, BERT, BLEU/ROUGE

Data Science & Feature Engineering: Pandas, NumPy, SciPy, Cross-Validation, Isolation Forest, Anomaly Detection

Serving & MLOps Tools: Python 3.13, FastAPI, ONNX Runtime, TensorFlow Lite, Docker, MLflow, DVC, Git

CORE PROJECTS

Multimodal Defect & Threat Inspection System | *PyTorch, YOLOv8, Albumentations, ONNX Runtime, TensorFlow Lite, FastAPI*

- Fine-tuned YOLOv8 in PyTorch to 94.2% mAP across 5 defect classes, as measured on a held-out set, by applying Albumentations augmentation (rotation, blur, scaling) and fusing spatial metadata into hybrid feature vectors.
- Quantized checkpoints with ONNX Runtime and TensorFlow Lite to reach 42 FPS on CPU-only hardware, served through an async FastAPI service returning bounding boxes and anomaly scores.

Production Anomaly Detection & Time-Series Pipeline | *Scikit-learn, XGBoost, Pandas, MLflow, DVC*

- Lifted anomaly detection F1-score from 0.74 to 0.89, as measured by cross-validation, by engineering rolling-window features and tuning Isolation Forest and XGBoost against baselines.
- Guaranteed full reproducibility across 40+ MLflow-tracked runs, as verified by the model registry, by versioning training splits with DVC.

Enterprise Multi-Agent Hybrid RAG & Verification System | *Embeddings, BM25, Ragas, Docker*

- Reduced text hallucination by 34%, as measured by Ragas faithfulness and context-recall scores, by building an intent-classify, retrieve, and fact-check pipeline that combines dense embeddings with BM25 reranking.
- Benchmarked dense against schema-driven retrieval, as validated by answer relevance scores, in a Dockerized environment.

PROFESSIONAL EXPERIENCE & TRAINING

AI Technocrat Industry Training (Mandatory OJT, 120 Hours) | IIT DHARWAD | Dharwad | Sep 27 – Oct 22, 2027

- Containerized PyTorch and Scikit-learn inference services with Docker and scaled Kubernetes clusters with Horizontal Pod Autoscaling.
- Implemented Jenkins and GitHub Actions CI/CD with automated model evaluation gates that block degraded checkpoints from deployment.
- Integrated Prometheus and Grafana to monitor serving latency, inference memory, and live prediction distributions.

Junior Software Developer (Internship), HeagI Technologies Pvt Ltd | Hubballi | Feb – May 2026

- Delivered 5 features across 2 production Django codebases, cutting feature turnaround by ~25%, by collaborating with senior developers.
- Resolved 15+ bugs, reducing debugging time by ~30%, by diagnosing defects with AI coding tools (Claude Code, Cursor).

EDUCATION & CERTIFICATIONS

AI Technocrat, NSQF Level 5.0 Professional Certification | IIT DHARWAD | Oct 22, 2026 – Oct 22, 2027

BCA, Information Technology, IBMR Business School | Hubballi | Sep 2023 – Jul 2026 | CGPA 7.66/10

Certifications: Oracle Certified Data Science Professional, Oracle, 2025 | AI Literacy, IBM, 2025 | Certified Product Manager (CPM), GeeksforGeeks

Awards: 1st Place, CheTech Hackathon (Chetan College), 2026 | Empathy Encryption Hackathon (UnsaidTalks), 2025