Vishak Bharadwaj

Machine Learning Engineer III

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PROFILE

Machine learning engineer with 6+ years building end-to-end ML systems — from deep learning research to production monitoring and MLOps pipelines. Experienced in model explainability, deployment, and drift monitoring at scale. Strong foundations in computer vision, NLP, and quantitative modelling.

EXPERIENCE

Machine Learning Engineer II → III

Jun 2022 — Present

Glance · Bengaluru, India

- Led behavioural user profiling (peek-heavy / CTA-heavy segmentation) across v100 → v210; delivered **30% delta on peek-heavy users** on Samsung.
- Built and productionised an LGBM recommendation model for Samsung achieving **12% delta**; owned end-to-end deployment including model-config changes.
- Built GenAI-based image metadata tagging automation using LLMs; led prompt engineering for category and subcategory classification.
- Co-built the two-tower recommendation service; main reviewer and co-contributor. Led Pinecone vector DB POC with batch ingestion and indexing; drove annotation cleanup and cost reduction.
- Drove content-level personalisation with product; managed popularity pipelines, recall optimisation, and observability improvements (CGen metrics, hourly log traces).

Machine Learning Engineer

Nov 2020 — Jun 2022

Censius AI · Bangalore, India

- Built deployment, explainability and monitoring modules using SHAP and LIME to explain model predictions and provide insight into why models produce the outputs they do; logged and monitored using MLflow, Prometheus, WhyLogs and Grafana.
- Created drift prediction APIs during deployment for continuous monitoring of performance and production data; monitored data and concept drift with custom code and WhyLogs.
- Containerized and deployed using Docker, GitHub Actions and AWS ECS; orchestrated on Kubernetes. Built data quality, drift and performance monitors on Prefect / Airflow jobs.

Software Developer & ML Instructor

Jul 2018 — Oct 2020

Omni-Eye / The Valley Edutech · Bangalore, Karnataka

- **Eye In the Sky:** Stacked deep learning models for real-time object detection, facial recognition (MTCNN + finetuned PyTorch) and plate detection (OCR pipelines). Tracked all experiments with MLflow.
- **Image Search & Clustering:** CNN autoencoder converting unlabelled images to feature vectors; KNN and LSH (Locality Sensitive Hashing) for fast similarity search + unsupervised clustering.
- **Voice Assistant:** Wake-word triggered audio-to-text system built on an acoustic model with a finetuned language model and rescoring algorithm.
- Student progress portal (Flask, MongoDB), GitHub commit-tracking APIs, and instructor to Python / ML / Deep Learning cohorts with a code-first, project-oriented approach.

NOTABLE PROJECTS

- **ResNet50 on ImageNet-1k from Scratch** ERAv4 · AWS EC2 — No pretrained weights; trained on full ImageNet-1k on EC2; 75%+ top-1 accuracy; ~10,000 people globally. HuggingFace demo.
- **YouSum — AI YouTube Summarizer** Chrome Extension — Streaming YouTube summaries via Claude & ChatGPT APIs; 5 detail levels, background generation, persistent storage.
- **YOLO Object Detection** Andrew Ng · C4 — Real-time detection for autonomous driving; bounding box prediction, IoU and non-max suppression from scratch.
- **Face Recognition with FaceNet** Andrew Ng · C4 — One-shot face verification using the FaceNet architecture and triplet loss.
- **Poetry Analysis Studio** Flask · Gemini AI — Poem analysis and generation (Haiku, Sonnet, Limerick, Free Verse) with detailed literary analysis via Google Gemini.
- **Neural Machine Translation with Attention** Andrew Ng · C5 — Seq2seq model with an attention mechanism, learning to focus on relevant input positions at each decoding step.
- **Rossmann Store Sales Prediction** Kaggle · Top 0.4% — Deep embedding network; 10% RMSPE; **11th out of 3,000+ teams**.
- **BlueBook for Bulldozers** Kaggle · Top 0.4% — Random Forest Regressor; RMSLE 0.2214; **2nd out of 476 teams**.

DOMAINS

Machine Learning · Deep Learning · MLOps · Computer Vision · NLP · Model Monitoring · Data Science

STACK

Python · PyTorch · TensorFlow · Scikit-learn · Pandas · NumPy · MLflow · Docker · Airflow · Prefect · Grafana · SHAP / LIME · Seldon Alibi · WhyLogs · Flask · GitLab CI/CD

EDUCATION

Bachelor of Engineering

B M S College of Engineering · Bangalore

2012 — 2016

CERTIFICATIONS

Deep Learning Specialization
Andrew Ng · deeplearning.ai

END2 — Extensive NLP via Deep Models
The School of AI

ERAv4 — Extensive & Reimagined AI Program
The School of AI