

Vishak Bharadwaj

Machine Learning Engineer III

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Bengaluru, India

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

Census AI · Bangalore, India

- Explainability Module:** Used 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.
- Drift Prediction Module:** Created APIs for continuous monitoring of model performance and production data; monitored data and concept drift with custom code; built data quality, drift and performance monitors on Prefect / Airflow jobs.
- Deployment & Infrastructure:** Containerized and deployed using Docker, GitHub Actions and AWS ECS; orchestrated on Kubernetes.

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.
- Student Platform & Instruction:** Portal for tracking student progress (Flask, MongoDB) with GitHub commit-tracking APIs; instructed Python, ML and Deep Learning cohorts with a code-first, project-oriented approach.

NOTABLE PROJECTS

- ResNet50 on ImageNet-1k from Scratch** [ERA4 · 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