

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

- **Hybrid Recommendation Engine:** Designed and deployed a dual-track ranking pipeline for 40M Samsung users (150M total platform). Dense track: Gemini-enriched content embeddings + Two-Tower retrieval + LGBM ranker. Sparse/cold-start track: Wilson's lower bound popularity + recency signals. Achieved a **40% lift in interactions**.
- **Signal Extraction & Data Pipeline:** Iterated extensively on high-volume, noisy event logs (150M+ user signals) to isolate clean, high-intent behavioral signals for downstream ML. 30-min hourly batch pipelines; low-latency online serving.
- **Infrastructure (Vertex AI → GKE):** Online and offline serving on Vertex AI with Vertex Feature Store; migrated to GKE + Argo CD; Golang prediction services and model controllers; OpenTelemetry and Grafana instrumentation.
- **Experimentation (Alchemist):** Contributed to internal A/B platform; derived minimum sample sizes from inference/confidence equations for statistically significant ranking experiments.
- **AI Annotation Setup:** GenAI image metadata tagging with LLMs and prompt engineering; drove annotation cleanup and cost reduction.

Machine Learning Engineer I

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.

Machine Learning Intern → Jr Machine Learning Engineer

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
Recommendation Systems
Deep Learning MLOps
Computer Vision NLP
Model Monitoring

STACK

Python Go PyTorch
Scikit-learn Pandas · NumPy
Vertex AI GKE Argo CD
Pinecone MLflow
OpenTelemetry Grafana
SHAP / LIME

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
ERA4 — Extensive & Reimagined AI Program
The School of AI