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

- **Personalisation at Scale:** Owned end-to-end personalisation for Glance's lock screen platform (150M users), with primary ownership of the Samsung channel (40M users); achieved a **40% lift in interactions**.
- **Ranking Architecture — Dense & Sparse:** Dual-track ranking pipeline — dense users served via Gemini-enriched content embeddings, two-tower retrieval, neural collaborative filtering and LGBM; sparse users ranked by Wilson's lower bound popularity + recency signals.
- **Infrastructure (Vertex AI → GKE):** Built online and offline serving pipelines on Vertex AI with Vertex Feature Store; migrated to GKE + Argo CD for cost efficiency; wrote Golang prediction services and model controllers; instrumented with OpenTelemetry, Victoria Metrics and Grafana. Low-latency online serving; 30-min hourly batch pipelines.
- **Experimentation (Alchemist):** Contributed to internal A/B testing platform; derived minimum sample sizes from inference/confidence equations to ensure statistical significance before shipping ranking changes.
- **AI Annotation Setup:** POC for annotation workflows; GenAI-based image metadata tagging with LLMs and prompt engineering for category classification; drove annotation cleanup and cost reduction.

Machine Learning Engineer I

Nov 2020 — Jun 2022

Censius 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** 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 · 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 · Prefect · OTel · Victoria Metrics · 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

ERAv4 — Extensive & Reimagined AI Program

The School of AI