

# 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

- Two-Tower Recommendation Model:** Co-built and main reviewer for the two-tower service; led Pinecone vector DB POC with batch data ingestion and indexing.
- Popularity Pipelines:** Managed popularity pipelines; user profiling (peak-heavy / CTA-heavy) delivering **30% delta** on Samsung; LGBM model achieving **12% delta**.
- AI Annotation Setup:** POC for annotation workflows; GenAI-based 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** [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