# AMAN LONARE

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## PROFESSIONAL EXPERIENCE

**Machine Learning Research Engineer | Archetype Studio, Tokyo, JPN | Full Time** *Aug'23 – Present*

- **Production-Scale ML System for Mobile Model Optimization & Deployment**
  - Architected & deployed production ML platform, processing 1M+ daily predictions for 500K+ users
  - Introduced MLOps culture by setting up CI/CD pipelines with **Amazon SageMaker** tools, reducing integration time for new models from days to hours & increasing deployment frequency from bi-annual to monthly
  - Cut incident response time by 50% through custom monitoring system built with SageMaker **Model Monitor**
  - Achieved 40% faster training speeds by implementing **distributed training** using **SageMaker DDP**
  - Improved model accuracy by 23% & reduced corrections by 25% through semi-automated continuous retraining
- **AI-Driven Edge Computing System for Multi-Modal Transportation Classification**
  - Designed & developed an **edge-based transportation mode detection system** for iOS platform serving 500K+ users with 1M+ daily predictions, achieving 99.3% accuracy in classifying 15 transportation modes
  - Optimized model footprint by 90% through hierarchical ML architecture while maintaining inference latency
  - Built cross-platform ML pipeline with m2cgen to convert Python models to native Dart, preserving performance
  - Reduced AWS costs by 70% by migrating ML inference to edge devices via **Flutter implementation**
  - Reduced operational costs 60% by implementing local feedback caching to eliminate OpenStreetMap API calls
- **Client-Centric AWS Migration & Security Enhancement**
  - Facilitated in **migrating organization's AWS environment** to client-managed infrastructure
  - Enhanced security by implementing **role-based access control** & encryption layers for ECS services

**Research Software Engineer | Hitachi R&D, Tokyo, JPN | Full Time** *Jan'21 – July'23*

- **Distributed Data Management Framework for Microservice Architecture**
  - Developed tool for assisting the implementation of **CQRS** & **Event Sourcing** design patterns
  - Reduced development time by 15% using **Domain Driven Design** software development approach
  - Improved scalability & availability of the developed application using **Kafka** & **EventStoreDB** tools

***Patent:*** *System & method to assist modelling CQRS & ES based application [Submitted]*

**AI Engineer | Hypothesis AI, IND | Part Time** *May'25 – July'25*

- **Multilingual AI Voice Agent for Abandoned Checkout Recovery in E-commerce**
  - Designed scalable multilingual AI voice agent using OpenAI & RAG, achieving latency in milliseconds
  - Engineered multilingual (6 languages), context-aware prompts, boosting abandoned checkout recovery by 90%
  - Developed event-driven integration framework with FastAPI, connecting Shopify with third party services and analytics platform (mixpanel), enabling seamless omni-channel customer engagement

## TECHNICAL SKILLS

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|---|---|
| **Languages & Frameworks** | Python, Dart, SQL, Flask, Django, FastAPI, Golang, Terraform, Bash |
| **Software & Platforms** | Github, Tensorflow, Pytorch, Hugging Face, Ollama, LangChain, LlamaIndex crewAI, OpenAI, Docker, Kubernetes, AWS, MLflow, Android, iOS, Grafana |

## EDUCATION

**Indian Institute of Technology Bombay | Technology & Development** *Aug'18 - July'20*

· CGPA: 9.3/10 | Machine Learning in Remote Sensing | Advanced Statistics | Satellite Image Processing

· **Publications:** Lonare, A., Maheshwari, B., & Chinnasamy, P. (2022). Village level identification of sugarcane in Sangali, Maharashtra using open source data. Journal of Agrometeorology

**Indian Institute of Technology Kanpur | Mechanical Engineering** *July'13 - Aug'17*

· Major Project: Fabrication of Non Destructive Testing Tool for Machinery Inspection

## RELEVANT PROJECTS

- AI-Powered Agentic Autonomous Form Completion System Using Document Intelligence
- Enterprise-Grade Multimodal AI System with Local LLMs for Document, Image, & Voice Processing
- Decision Support System (DSS) for Agriculture Monitoring using Convolutional Neural Network (CNN)