

Aryan Anand

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EXPERIENCE

Software Development Engineer - R&D

June 2025 - Present

Ninestars Information Technologies, Bangalore

- Architected and developed **AOTM Vault**, a multi-tenant secrets management platform supporting 50+ cryptographic algorithms, multi-cloud storage across AWS, Azure and Google Cloud, automated key rotation, real-time WebSocket streaming and immutable audit logging, reducing enterprise key rotation overhead by 80%.
- Architected **AOTM FDI**, a multi-tenant credential-fraud detection platform with 11 Django apps, 119 REST routes and a 43-table PostgreSQL schema; built a 5-stage OCR-to-clustering pipeline using RabbitMQ and specialised Celery workers with idempotent distributed processing, WebSocket progress streams, collaborative editing and report generation.
- Engineered high-scale data and platform systems including a distributed migration engine for 60M+ row databases, a Redis/PostgreSQL usage and billing layer with a sub-5ms hot path, and fail-closed multi-tenancy across 33 tenant-scoped tables; shipped 170+ versioned builds in seven weeks backed by 70 scripted test suites.
- Built distributed ML infrastructure across 10 RabbitMQ quorum queues with transactional fan-in and redelivery-safe processing, executing 10,700+ inference jobs across 2,500+ completed multi-stage runs; designed telemetry systems sustaining 3.6M rows over 119 days and serving 50K-row analytical windows in ~250 ms.
- Built an enterprise RAG system using hybrid dense+sparse search over Qdrant with self-hosted LLMs and Jina Embeddings, enabling sub-800ms semantic search across 100K+ files; also designed a private blockchain ledger with immutable transaction chains, Merkle-root validation and on-chain document signing.

Machine Learning Intern

Sept 2023 - Dec 2023

TIH IoT, IIT Bombay, Mumbai

- Built a U2-Net image masking pipeline and CNN-based vegetation segmentation system for NDVI and hyperspectral imagery, achieving an 11% improvement through preprocessing, augmentation and hyperparameter tuning.

EDUCATION

Vellore Institute of Technology

CGPA: 8.24/10

Bachelor of Technology in Computer Science and Engineering

2021 - 2025

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, TypeScript, C, C++, SQL, Bash/Shell

Backend & Web: Django, Django REST Framework, Django Channels, FastAPI, Flask, Node.js, Express.js, React, Next.js, GraphQL, WebSockets

Distributed Systems: Celery, RabbitMQ, Apache Kafka, Redis Streams, Pub/Sub

Databases & Cloud: PostgreSQL, MySQL, MongoDB, Redis, TimescaleDB, Qdrant, AWS, Google Cloud, Azure, MinIO

DevOps: Git, Docker, Kubernetes, Jenkins, GitHub Actions, GitLab CI/CD, Terraform, Ansible, Linux

AI/ML: PyTorch, TensorFlow, HuggingFace Transformers, Llama, RAG, OpenCV, LangChain, Scikit-learn

PROJECTS

MedAI Vision | *Python, PyTorch, TensorFlow, Llama, React.js, Node.js, MongoDB, Git*

2025

- Built a super-resolution GAN for MRI/CT clarity achieving 92% accuracy on 54,000 samples, a CycleGAN for MRI-to-CT translation, and a Vision Transformer-CNN for multi-label disease classification achieving 88.4% accuracy; fine-tuned Llama 3.2 11B on medical literature for explainable AI insights.

Gesture Echo | *Python, OpenCV, TensorFlow, Google Cloud, Git*

2024

- Developed a real-time sign language-to-speech system using ResNet-18 and OpenCV achieving 97% accuracy and 200ms latency on low-end devices, with Google TTS API integration.

CERTIFICATIONS AND ACHIEVEMENTS

Neural Networks and Deep Learning, Generative AI with LLMs, Supervised Machine Learning, React Basics, Python, JAVA, PHP and MySQL, AWS Cloud Practitioner, SIH 2022