

Aditya Anand

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TECHNICAL SKILLS

- **Programming:** Python, C/C++, JavaScript, SQL, Bash
- **Frameworks and Libraries:** Scikit-learn, TensorFlow, Keras, NumPy, Pandas, Pytorch, Django, Flask, Qiskit, PennyLane
- **Tools:** Docker, Git, PostgreSQL, MySQL, SQLite, QGIS, Kali-tools
- **Platforms:** Linux, AWS, IBM Cloud
- **Key Areas:** Machine Learning, Deep Learning, Computer Vision, Digital Image & Signal Processing, Quantum Machine Learning

EXPERIENCE

ASSIMOV Robotics

India — Jun 2025 – Sept 2025

AI/ML Engineer Intern

- Developed deep learning perception pipelines for robotic vision including classification and feature extraction
- Designed and optimized convolutional neural networks under real-time inference and deployment constraints
- Built data preprocessing and augmentation pipelines improving model robustness on limited datasets
- Integrated trained models with robotic hardware enabling real-time intelligent perception

Independent AI/ML Research

Remote — Aug 2024 – Oct 2024

Machine Learning

- Implemented end-to-end machine learning pipelines including preprocessing, training, validation, and inference
- Developed CNN-based medical image classification system for automated disease detection
- Evaluated models using accuracy, precision, recall, and validation metrics

PROJECTS

Quantum Assisted Cognitive Agent (QACA) — Personal Research Project

- Designed and implemented a model-based cognitive agent architecture integrating latent state representation, world models, value learning, and planning mechanisms
- Developed a predictive world model enabling internal simulation of environment dynamics and trajectory evaluation
- Built a quantum-inspired trajectory planner using bitstring encoding and QAOA-style optimization to evaluate action sequences

Medical Image Classification

- Developed CNN-based medical image classification pipeline using TensorFlow
- Applied preprocessing, augmentation, and optimization techniques
- Evaluated performance using standard machine learning metrics

Satellite Image Stitching System

- Built large-scale image stitching pipeline using feature matching and geometric alignment
- Processed high-resolution satellite imagery for reconstruction and analysis
- Improved computational efficiency using optimized processing methods

Monday.com BI Conversational AI Agent

- Built production-style conversational AI agent for business intelligence over CRM and operational datasets
- Designed modular pipeline for intent parsing, data retrieval, and automated insight generation
- Engineered preprocessing pipelines for noisy and inconsistent real-world business data
- Generated analytics including pipeline status, conversion rates, and operational performance metrics

MyShell — Unix-like Shell in C++ — Systems Programming Project

- Implemented a Unix-like command shell from scratch in C++ to understand operating system process management.
- Built support for command parsing and execution using `fork()`, `execvp()`, and `waitpid()` to spawn and manage child processes
- Implemented foreground and background job execution (`&`) with internal job tracking using C++ data structures

ACHIEVEMENTS

- 10th Score (96.1%) 2019
- 12th Score (90%) 2021
- OPHO Rank 251 2021
- Regional Mathematics Olympiad Qualified 2019
- Top 200 in the Amazon ML Challenge 2025
- Codeforces Specialist (Rating: 1462)