

## Education

**BTECH IN INFORMATION TECHNOLOGY** – Manipal Institute of Technology –Manipal

Expected Graduation: Many 2027

## Skills

- Languages: Python, Java, C, C#, MySQL
- Tools: Pandas, NumPy, SciPy, Matplotlib, Scikit-Learn, Seaborn
- Frameworks: TensorFlow, Keras, PyTorch, OpenCV(Computer Vision), Mediapipe
- CNNs, Transformers, YOLO, ONNs

## Work Experience

**INDOAI TECHNOLOGIES PVT LTD (INDO.AI) (INTERN) – INDIA**

October 2024 - June 2025

- Engineered a YOLOv8-based fire and smoke detection model trained on 21K+ labeled images (YOLO format), achieving 92% mAP@0.5 and real-time FPS with OpenCV for automated alert systems
- Developed a violence and action recognition model using 3D CNNs and Vision Transformers in PyTorch, reaching 96% detection accuracy and 30% faster inference through model pruning
- Integrated OpenAI's CLIP with a custom frame-ranking pipeline for prompt-driven object detection, improving video summarization accuracy by ~20% over heuristic-based baselines
- Performed advanced feature engineering, data augmentation, and hyperparameter optimization (Optuna, GridSearchCV), boosting F1 scores by 8–15% across multiple detection projects
- Developing a lightweight custom-layer neural network for object detection on IP camera feeds, designed to replace heavy models like YOLO; targeting 4–5 second response times without edge computing to enable affordable AI surveillance in low-resource, locally networked setups.

## Projects

**ALGORITHMIC QUANT TRADING (UNSUPERVISED ML) – Personal Project**

May 2025

- Developed a systematic trading strategy in Python by integrating K-Means clustering for market regime identification and technical indicators (RSI, MACD, ATR) for signal generation
- Implemented dynamic portfolio optimization using PyPortfolioOpt to enhance asset allocation and risk-adjusted performance
- Achieved a 14.98% annualized return with a 0.798 Sharpe Ratio in backtests, outperforming S&P 500 benchmarks

**GYM EXERCISE TRACKER– Personal Project**

December 2024

- Built a real-time posture correction tool in Python using OpenCV and MediaPipe for human pose estimation and keypoint angle tracking
- Developed feedback mechanisms to alert users on incorrect posture during exercises, improving form and reducing injury risk
- Improved exercise accuracy by ~25% in user tests through continuous real-time visual feedback

**STOCK PRICE PREDICTION USING RANDOM FOREST AND NEWS SENTIMENT – Personal Project**

December 2024

- Developed a Random Forest regression model using historical stock data collected from Yahoo Finance to predict short-term price movements
- Integrated news sentiment analysis using the VADER algorithm to enhance model signals and capture market sentiment impact
- Achieved improved prediction accuracy compared to price-only baselines, demonstrating the value of combining technical and sentiment data

**SECONDSIGHT LUNG - Personal Ongoing Project**

- Developing a lightweight, customized ML model using Stanford's CheXpert dataset to detect lung diseases (e.g., pneumonia, pulmonary embolism) from chest X-rays with high diagnostic accuracy.
- Building a patient-focused app that offers automated second-opinion diagnoses, addressing critical misdiagnosis rates (up to 54% in some cases), and empowering early intervention in low-resource settings.

#### **SOLANA COIN GRADUATION PREDICTOR** - Personal Ongoing Project

- Designing an on-chain analysis pipeline to study early transactions data and deployer wallet behavior using clustering and graph-based features, aiming to forecast meme coin graduation within 100 blocks post-mint.

### **Certifications**

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- **Google Cloud Digital Leader Training** – Google
- DeepLearning.AI TensorFlow Developer - DeepLearning.AI
- **SQL: A Practical Introduction for Querying Databases** – IBM
- **Convolutional Neural Networks** in TensorFlow – DeepLearning.AI
- Mathematics for Machine Learning: Linear Algebra – Imperial College London
- **Quantum Cryptography School for Young Students** (QCSYS-2021) – University of Waterloo & Institute for Quantum Computing (Selected among 120 students worldwide)
- IBM's Qubit by Qubit (2020-2021) – Introduction to **Quantum Computing** (Received 100% scholarship, selected among 5000 students worldwide)

### **Extracurricular Activities**

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#### Football (Professional, 8+ years experience)

- Pro-Level: Played for Pune City FC & KMPL
- State-Level Player, Captain of the school's football team for 3 years
- Current team player of the prestigious Manipal Football Club

#### Music

- Keyboard Artist – Certified by Trinity College London (Grade 1 Practical, Initial Grade Theory)
- Active member of the school's musical group since 7th grade as a keyboard player