ABHISHEK CHETTIAR

AI / ML ENGINEER

+91 9167550625 | shankarabhishek2001@gmail.com | Abhishek Chettiar | Mumbai, Maharashtra

Technical Skills

- **Programming Languages:** Python, R, SQL
- **Libraries & Frameworks:** TensorFlow, PyTorch, Keras, Scikit-learn, Hugging Face Transformers
- **Large Language Models:** GPT-4, Claude, RAG Transformers, LangChain
- **Cloud Platforms:** Google Cloud Platform (GCP), GitHub Codespaces, CodeSandbox
- **Computer Vision:** YOLO, OpenCV, Detectron2, Albumentations
- **Data Analysis & Visualization:** Pandas, NumPy, Matplotlib, Seaborn, Plotly, Power BI, Tableau
- **ML & AI Concepts:** CNN, LSTM, XGBoost, ARIMA, SHAP, LIME, Random Forest, Agentic AI
- **Tools & Deployment:** Streamlit, Gradio, n8n, GitHub, Docker (basic)

Certifications

- **Python Programming Masterclass**
- **Python Deep Learning for Beginners**
- **Basics of Machine Learning**
- **Machine Learning A-Z**
- **Artificial Intelligence A-Z**
- **AI Tools and ChatGPT Workshop**
- **Data Science Course: Complete Bootcamp**

Internship

Software Developer (AI/ML) Intern

WAi Technologies | April 2025 – July 2025

- Developed backend APIs and trained a YOLOv11 object detection model on 10K+ images, achieving 93% precision for real-time inference.
- Automated deployment workflows using n8n, reducing manual configuration effort by 35%.
- Integrated GPT-4.1 with Claude fallback to build a resilient design-to-code AI assistant, improving generation consistency.
- Researched and implemented Agentic AI systems with autonomous agents to manage tasks across a distributed AI ecosystem.

Additional Information

- **Languages:** English (Fluent), Tamil (Fluent), Hindi (Fluent), Marathi (Intermediate)
- **Hobbies:** Acquiring new skills, traveling, gaming, and participating in sports
- **Leadership Roles:** Treasurer of IEEE APSIT, Head of Design and Body Works at ARC Club, APSIT
- **Competitions:** Competitor in Robowar at AMITY University and NIT Surat

Career Objective

Passionate and hands-on AI/ML engineer with solid experience in building deep learning and machine learning models across domains like healthcare, finance, and computer vision. Skilled in Python, TensorFlow, PyTorch, and popular ML tools, with a strong focus on model performance, interpretability, and deployment. Always eager to solve real-world problems using data-driven, intelligent solutions, and constantly learning to stay ahead in the evolving AI space.

Education

PG Diploma in Artificial Intelligence and Machine Learning (PGD)
MIT World Peace University, Pune | 2025

Bachelor's in Mechanical Engineering (B.E)
A. P. Shah Institute of Technology, Thane | 2023

Higher Secondary Certificate (HSC)
Vani Vidyalaya Jr College, Mumbai | 2019

Higher Secondary Certificate (HSC)
Sharon English High School, Mumbai | 2017

Projects

Explainable AI for Transparent Decision-Making in Healthcare

- Developed a heart disease prediction model using XGBoost with SHAP and LIME for visualising feature-level decision impact.
- Created an interactive dashboard for transparent medical predictions using Streamlit and Gradio.
- Achieved 84% accuracy with improved interpretability and trust in model outputs.
- **Tech Stack:** Python, XGBoost, SHAP, LIME, Scikit-learn, Streamlit, Gradio, Pandas, NumPy, Matplotlib, Seaborn

Stock Market Prediction Using LSTM & ARIMA

- Built a hybrid time-series forecasting model combining LSTM and ARIMA using 5 years of stock data.
- Implemented data preprocessing, trend analysis, and sequence modelling for stock closing price predictions.
- Achieved RMSE of 1.57 with a 22% improvement in MSE over baseline linear regression.
- **Tech Stack:** Python, LSTM, ARIMA, Keras, TensorFlow, Yahoo Finance API, Scikit-learn, Pandas, Statsmodels, Matplotlib

Sign Language Detection Using YOLOv5

- Trained a YOLOv5 model on 10K+ annotated American Sign Language images for real-time gesture detection.
- Applied data augmentation with Albumentations and built a live demo interface with Gradio and OpenCV.
- Achieved mAP@0.5 of 91% and stable real-time performance on webcam input.
- **Tech Stack:** Python, YOLOv5, PyTorch, OpenCV, Gradio, Pandas, NumPy, Albumentations, Matplotlib

Dog Breed Classification Using CNNs & Transfer Learning

- Implemented a ResNet50-based CNN for classifying 120+ dog breeds using transfer learning techniques.
- Applied advanced data augmentation and training optimisations to boost model accuracy.
- Achieved 92.1% accuracy with a 30% reduction in training time using early stopping and callbacks.
- **Tech Stack:** Python, TensorFlow, Keras, ResNet50, CNN, Pandas, NumPy, Matplotlib, Seaborn, ImageDataGenerator

Human Activity Recognition Using Smartphones

- Processed raw accelerometer and gyroscope data to classify activities like walking, sitting, and running.
- Engineered time and frequency domain features (FFT, mean, variance) to improve model performance.
- Built LSTM and Random Forest models, achieving an F1 score of 0.89 across six activity classes.
- **Tech Stack:** Python, LSTM, Random Forest, TensorFlow, Scikit-learn, Pandas, NumPy, FFT, Seaborn, Matplotlib

AI-Powered Design-to-Code Assistant with LLMs & Autonomous Agents

- Built a multi-agent AI assistant integrating GPT-4.1 and Claude to convert design prompts into deployable code.
- Deployed fallback workflows using n8n and automated sandboxed previews via GitHub Codespaces and CodeSandbox.
- Improved design-to-deployment time by 40% with >99.8% generation success using agent-based orchestration.
- **Tech Stack:** Python, GPT-4.1, Claude, Hugging Face Transformers, n8n, CodeSandbox, GitHub Codespaces, LLM APIs