

MAGUDESHWARAN H

Machine Learning Engineer | Agentic AI Developer

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Portfolio: Search "Magudesh AI Developer" on Google | LinkedIn: linkedin.com/in/magudeshwaran-h

PROFESSIONAL SUMMARY

Results-driven Machine Learning Engineer with hands-on experience building multi-agent AI systems, predictive models, and automation frameworks. Proven ability to deliver 85%+ accuracy classification models, reduce manual workflows by 60%, and architect agentic AI solutions integrating LLMs (Gemini, Vertex AI), NLP, and real-time APIs. Specialized in Python, scikit-learn, feature engineering, and model deployment with Flask/REST APIs. Built production-grade financial intelligence system (PentAiGen) serving 12+ AI agents and legal automation platform (legal synopsis) reducing contract review time by 70%. Seeking ML Engineer role to leverage agentic AI expertise and drive intelligent automation at scale.

TECHNICAL SKILLS

Programming Languages:

Python, JavaScript, HTML5, CSS3, SQL

Cloud & Deployment:

Google Vertex AI, Firebase, Flask, REST APIs, Model Deployment

ML/AI Frameworks:

scikit-learn, Pandas, NumPy, Matplotlib, Seaborn, TensorFlow/Keras (LSTM), LangChain, Llama Index

Tools & Platforms:

Git/GitHub, VS Code, Jupyter Notebook, CLI

ML Techniques:

Supervised Learning (Random Forest, SVM, Logistic Regression), Time Series (ARIMA, LSTM), NLP (TF-IDF, Sentiment Analysis), Feature Engineering, Model Evaluation (Cross-validation, Confusion Matrix, ROC-AUC)

Multi-Agent AI Systems, LLM Integration (Gemini API), Agentic Frameworks, Financial Analytics (Tiingo API), Legal Document NLP, Automation Workflow

PROFESSIONAL EXPERIENCE

Machine Learning Intern

Jun 2024 – Mar 2025

Nura AI | Remote

- Preprocessed business records using Pandas/NumPy, improving data quality by 30% through outlier detection, feature scaling, and missing value imputation
- Trained Random Forest and SVM classification models achieving 85%+ accuracy with hyperparameter tuning (GridSearchCV) and cross-validation (k-fold=5)
- Evaluated models using precision, recall, F1-score, and confusion matrices; reduced false positives by 18% through threshold optimization
- Designed automated ML pipeline for data ingestion, feature engineering, training, and evaluation—reducing experiment cycle time by 40% Collaborated with data engineering team to deploy predictive models via Flask REST API for real-time inference

Front-End Developer Intern

Aug 2023 – May 2024

Auro Tech Solutions | Remote

- Built responsive web applications using HTML5, CSS3, and JavaScript, improving page load speed by 35% through code optimization Enhanced UI/UX
- design resulting in 40% increase in user engagement and 25% reduction in bounce rate (Google Analytics)
- Collaborated with backend team (Python/Flask) to integrate RESTful APIs and ensure seamless data flow between frontend and ML models
- Implemented accessibility standards (WCAG 2.1) across web interfaces, improving usability for 500+ users

FEATURED PROJECTS

PentAiGen – Multi-Agent Financial Intelligence OS

Python | Gemini API | Vertex AI | Fi MCP Server | Tiingo API | Flask | ReactJS

Architected enterprise-grade agentic AI system functioning with 12+ specialized agents (Wealth Strategist, Tax Optimizer, Risk Watchdog). System autonomously analyzes financial data, generates insights, and automates portfolio management.

- Achieved 95% automation in financial analysis workflows and reduced manual data review time by 60% through agentic reasoning
- Integrated Tiingo API for real-time stock market data visualization and portfolio tracking across 100+ securities
- Designed secure API key-based conversational layer enabling personalized chat interactions with financial context retention
- Deployed multi-platform access (web, WhatsApp, voice) with natural language query processing using Gemini LLM
- Implemented agent orchestration framework coordinating 12 specialized AI agents with role-based access control

Health Diagnosis Prediction System (Diabetes, Heart Disease, Hypertension)

Python | scikit-learn | Pandas | NumPy | Flask | HTML/CSS

Built supervised learning system predicting 3 major health conditions using patient medical records. Deployed as web application with interactive interface for healthcare professionals.

- Achieved 82% accuracy using ensemble methods (Random Forest + Logistic Regression) with 10,000+ patient records
- Engineered 15+ features including BMI, glucose levels, blood pressure, and family history through domain research

AI Legal Document Analyzer

Python | Llama Index | LangChain | Gemini API | NLP | Flask | MongoDB

Developed multi-agent legal reasoning system automating contract review, risk detection, and compliance checking using NLP and LLM-based clause extraction.

- Automated 70% of manual contract review tasks through intelligent clause detection and risk classification
- Generated visual risk summaries with compliance scoring system processing 500+ legal documents
- Implemented secure API-based chat system for document Q&A and clause comparison with citation tracking
- Built self-learning feedback loop improving clause detection accuracy from 75% to 89% over 3 months

Stock Price Prediction System (LSTM + ARIMA)

Python | TensorFlow/Keras | LSTM | ARIMA | Pandas | Matplotlib

Time series forecasting system predicting stock market trends using hybrid deep learning and statistical models. Integrated data dashboard for pattern visualization.

- Achieved 78% directional accuracy in 7-day price movement prediction using LSTM (3 layers, 50 neurons each)
- Combined ARIMA (statistical) + LSTM (deep learning) for hybrid forecasting, improving accuracy by 12% vs single model
- Processed 5+ years of historical stock data (1M+ data points) with feature engineering (RSI, MACD, moving averages)

Additional Projects

Sentiment Analyzer: NLP-based review analysis using TF-IDF + Naive Bayes (80% accuracy) | **ML Chatbot Builder:** Automated ML pipeline builder with dynamic model training | **HMW Divine Mart:** Full-stack e-commerce platform with payment gateway integration

EDUCATION

Bachelor of Technology – Artificial Intelligence & Data Science

2022 – 2026

AVS Engineering College, Salem, Tamil Nadu, India

CGPA: 8.0/10.0 (Expected) | Relevant Coursework: Machine Learning, Data Structures, Algorithms, Statistical Analytics, Deep Learning, NLP

CERTIFICATIONS & CONTINUOUS LEARNING

- **Machine Learning Specialization** – LIVEWIRE (2024)
- **Introduction to Large Language Models** – NPTEL (2025)
- **GenAI Academy Training** – Google Gemini & Vertex AI (2024)
- **Active on:** Kaggle (ML Competitions), Hack2Skill (AI Hackathons), Google Cloud Skills Boost
- **Hackathon Participant** – Competed in 3+ AI hackathons with innovative solutions in healthcare and finance domains

LANGUAGES

- English (Fluent) | Tamil (Native) | Hindi (Intermediate) | Telugu (Intermediate)