VAMSI KATTERA

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Objectives

Motivated and creative AI Engineer passionate about building intelligent systems that blend human interaction with machine learning. Experienced in developing real-world AI applications - from adaptive coding assistants and generative AI tools to voice-based personal assistants. I aim to contribute my skills in deep learning, NLP, and automation to design scalable, human-centered AI solutions that make technology more intuitive and accessible.

Skills

Languages

English | Hindi | Telugu

Mathematics

Linear Algebra | Calculus | Probability & Statistics

AI/ML

Machine Learning | Deep Learning | CNN | RNN | LSTMs | Computer Vision | Word Embedding | NLP | Sentimental Analysis.

Tools

Python | Tensorflow | Keras | Scikit-learn | Wix Studio | ChatGPT| Figma | Adobe | Google Workspace | Canva | MS Office

Design

UI/UX Design

Marketing/Content

Content Strategy | Copywriting | Storytelling

Hobbies

Reading | Cooking | Traveling

Education

University of Strathclyde,Scotland,UK

Masters - Advanced Computer Science Jan 2025 - Jan 2026

Projects

🧠Adaptive Coding Challenges – GenAI Coding Assistant

click

Tech Stack*:* Streamlit, Google Generative AI (Gemini), Pandas, AST, Contextlib, Time, Python

- Developed an AI-powered coding challenge platform that dynamically adjusts question difficulty based on user performance, simulating an adaptive learning system.
- Integrated Google Generative AI (Gemini) to provide context-aware coding hints and feedback, enhancing user learning experience in real time.
- Utilized `ast` and `contextlib` for secure sandboxed code execution, capturing outputs and preventing unsafe operations during user code evaluation.
- Managed challenge progression and scoring logic with Pandas-based state tracking and Streamlit's session state, ensuring smooth user interaction.
- Built a fully interactive Streamlit web interface with automated difficulty scaling, live validation, and progress tracking for an engaging user experience.

🧠 Brother Jackey – AI Voice Assistant | Generative AI, Voice Automation, Python *click*

Tech Stack: Python, SpeechRecognition, pyttsx3, Gemini API, Picovoice Porcupine, SoundDevice, Requests, dotenv

- Built a fully functional Jarvis-inspired AI voice assistant capable of wake-word detection, natural language conversation, and real-time task execution.
- Integrated Gemini 2.0 Flash API for contextual AI conversations with memory persistence and personalized responses.
- Enabled voice-activated app control and web automation — opening Chrome, VS Code, YouTube, Gmail, and more through natural speech.
- Implemented wake-word detection ("Brother Jackey") using

Soft Skills

Teamwork | Leadership | Active Listening

Extracurricular activities

- Participated in poster presentation and cipher race at a college event called Sankalp.
- Conducted a blood groups and blood pictures campaign to raise awareness about health and spread the knowledge to remote villages with my team as a team leader.

Strengths

- Adaptability
- Self-Motivated
- Target Completion in Time
- Positive Attitude
- Time Management

Achievements

- Led a team of 4 members successfully completed an Academic project (Under - Grad).
- Led a team of 5 members successfully completing a community service project (Under - Grad).
- Developed Adaptive Coding Quiz App - GenAI Assistant.
- Developed an AI OR REAL Image Detector from scratch, using Tensor and keras.
- Developed a Personal AI Assistant(*Jarvis Inspired*).

Picovoice Porcupine and continuous microphone streaming for instant activation.

- Developed task memory and silent/reactivation modes, allowing persistent reminders and adaptive interaction flow.
- Designed a modular architecture for easy skill expansion, robust logging, and local `.env`-based key management for security.

🔍AI vs Real Image Classifier | Deep Learning, Computer Vision *click*

Tech Stack: TensorFlow, Keras, MobileNetV2, Python, Streamlit, NumPy, Matplotlib

- Developed a binary image classification model using MobileNetV2 to detect AI-generated vs real images.
- Applied data augmentation, transfer learning, and fine-tuning to improve model accuracy and robustness.
- Implemented learning rate scheduling and early stopping to optimize training efficiency.
- Deployed the trained model using Streamlit, enabling real-time image upload and prediction via an interactive web app.

Certificates

Deep Learning Specialization -

DeepLearning.AI(Coursera,2025)

- Covered Neural Networks and Deep Learning, Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization, Structuring MachineLearning Projects, Convolutional Neural Networks, Recurrent Neural Networks, LSTMs,Sequence Models.

Mathematics for ML and Data Science -

DeepLearnng.AI(Coursera, 2025)

- Focused on Linear Algebra for Machine learning and Data Science, Calculus for Machine learning and Data Science, Probability & Statistics for Machine learning and Data Science.