JAYRAJ M. PAMNANI

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SKILLS

Machine Learning & AI: Scikit-learn, TensorFlow, Keras, PyTorch, Coqui TTS/STT, OpenAI Whisper, LangChain, VLMs, LLMs, NumPy, Random Forest, Decision Trees, Clustering, Regression, NLP (Sentiment Analysis, Text Classification), Deep Learning, Computer Vision

Worked with LLMs: Gemini-flash-2.0, Phi-2, CodeLlama-7B, Mistral-7B, Llama2, Zephyr, CodeGen, BERT, CodeGemma

Big Data & Databases: Hadoop, Apache Spark, Hive, BigQuery, PostgreSQL, MongoDB, SQL, Oracle Data Modeler, MySQL, CosmosDB

Programming Languages: Python, R, Java, JavaScript, C++, SQL, MATLAB, TypeScript

Data Analysis & Visualization: Pandas, PowerBI, Matplotlib, Seaborn, SciPy, Tableau, R (data wrangling, visualization, statistical analysis)

Platforms: VSCode, Github, Ollama, HuggingFace, AWS, Google Cloud, Kubernetes, Docker, Azure, Google AI Studio, N8n

PROFESSIONAL EXPERIENCE

Swaroop.ai - AI Intern, Ahmedabad, India   *Mar. 2024 - Aug. 2024*

- I collaborated on developing Text-to-Speech (TTS) models using Coqui TTS, an open-source toolkit supporting over 1,100 languages with real-time streaming synthesis.
- I also worked on Speech-to-Text (STT) models leveraging Coqui STT, a battle-tested deep-learning toolkit for training and deploying robust ASR systems across research and production environments.
- Additionally, I implemented OpenAI Whisper, a transformer-based ASR system to achieve accurate, noise-resilient transcriptions and multilingual speech translation. Through these projects, I gained hands-on experience in end-to-end model development, from data preprocessing and model training to evaluation and production deployment.

Robotskull - Data Scientist Intern, Vadodara, India   *Oct. 2023 – Mar. 2024*

- Streamlined vendor and product sales data from diverse sources (orders, inventory, customer requests), converting raw logs into structured datasets.
- Analyzed trends in demand across robotics components such as Raspberry Pi, Arduino boards, sensors, motors and identified key seasonal and product-specific insights.
- Built regression and classification models (e.g., forecasting monthly orders, detecting likely restock items) using Python, Pandas, and scikit-learn.
- Visualization and reporting: Created dashboards and visual summaries that helped the procurement team prioritize high-demand SKUs and optimize inventory.

Freelance Software Developer, Vadodara, India   *Jul. 2023 – Sept. 2023*

- Developed and deployed a custom web application for a Canada-based client to automate PDF data extraction and integration with KatanaMRP, an inventory management system.
- Built a Flask-based web interface and Python backend that uses the pdfplumber library to parse and extract structured data from uploaded PDFs into JSON format.
- Implemented multiple client-specified verification checkpoints to ensure accuracy and data integrity before syncing to KatanaMRP via API. Deployed the application securely on an AWS EC2 instance, ensuring reliability and availability.

Parul University - Teaching Assistant for Operating Systems Course, Vadodara, India   *Oct. 2022 - Mar. 2023*

- Assisted in teaching core concepts of operating systems including process management, memory management, file systems, and synchronization.
- Conducted weekly lab sessions, clarified student doubts, graded assignments and projects, and supported students in understanding Linux system programming and multithreading using C.

PROJECTS

Command Line Helper: Natural Language to Bash Command Translator

- Developed an intelligent command-line assistant using Python and CodeLlama-7B that converts natural language instructions into precise bash commands through Retrieval-Augmented Generation (RAG). Implemented RAG with ChromaDB and sentence-transformers to enhance command accuracy by learning from historical examples and semantic patterns. Built a dual-interface system featuring both CLI and web interfaces, with command history tracking and debug capabilities, making terminal operations more accessible to users of all technical levels.

AnimeGAN: Crafting Faces with Deep Learning

- Designed and implemented a Deep Convolutional Generative Adversarial Network (DCGAN) using TensorFlow and Keras to generate realistic anime face images. Optimized the generator and discriminator models with advanced techniques to improve the quality and diversity of outputs. Visualized training progress and results through Matplotlib to evaluate model performance effectively.

Chapter: Secure Library Management System *(Project domain given by Professor for Principles of Database Sys. course)*

- Designed a robust relational database for a real-world business case using Oracle Data Modeler, translating requirements from the professor into an efficient schema. Developed a secure, full-stack web application with Python (Django), HTML, CSS, and JavaScript, implementing features such as SQL injection prevention, deadlock handling, and password encryption. Built user authentication with distinct customer and employee logins; employees access a dedicated dashboard that summarizes key business metrics.

HexDrop: Private, encrypted file delivery

- Developed a secure file sharing app using Next.js, TypeScript, and AWS S3 with end-to-end encryption and real-time transfer capabilities. Implemented real-time file transfer system with Socket.io and PostgreSQL, featuring progress tracking and download management. Built responsive UI with Tailwind CSS supporting drag-and-drop uploads and secure file sharing through unique key generation.

EDUCATION

New York University | Master's in Computer Engineering | GPA:3.8/4.0 | May 2026

Parul University | Bachelor's in Computer Science & Engineering with Specialization in AI | GPA:3.4/4.0 | May 2024

CERTIFICATIONS

Deep Learning Specialisation by Andrew Ng from Coursera

Google Data Analytics Professional Certificate Course from Coursera