

VIGNESH CHINTHAKUNTLA

Software Developer

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PROFESSIONAL SUMMARY Results-oriented Backend Developer with experience in delivering scalable, AI-driven solutions using Python, Django, FastAPI, and n8n. Proficient in integrating Large Language Models (LLMs) like Gemini and OpenAI with vector databases for RAG architectures. Skilled in cloud deployments on GCP and AWS, with expertise in microservices, asynchronous task queues (Celery/Redis), and advanced automation. Eager to apply technical expertise in NLP and backend engineering to solve complex business challenges.

TECHNICAL SKILLS

- **Languages:** Python, HTML, CSS, JS.
- **Frameworks & Libraries:** Django, FastAPI, Celery, LangChain.
- **AI & Machine Learning:** LLMs (OpenAI, Gemini), Vertex AI, Google Grounding, Google Live, Pinecone, ElevenLabs. Antigravity.
- **Database & Search:** PostgreSQL, MySQL, MongoDB, Redis, Typesense.
- **Cloud & DevOps:** GCP, AWS (S3), Docker, Git.
- **Development platforms:** One.com, odoo, shopify, hostinger.
- **Tools & APIs:** n8n, MAKE.com, Twilio, SendGrid, Mailtrap, SerpApi, Tableau, Power BI.

EXPERIENCE

Webandcrafts

Dec 2024 – Present

Software Developer (R&D Team) | Thrissur, Kerala

- Spearheaded the architecture and development of an AI-driven healthcare automation platform, utilizing Python and low-code workflows to streamline HR and operational processes.
- Orchestrated the integration of complex third-party APIs (ElevenLabs, Twilio) with backend services, ensuring real-time data processing and high availability.
- Engineered asynchronous task pipelines using Celery and Redis to handle bulk data processing, significantly reducing system latency.
- Collaborated in Agile sprints to migrate prototype workflows from FastAPI to n8n, optimizing deployment speed and maintainability.

Indian Institute of Technology - Madras

Apr 2022 – Nov 2023

Full-Stack Developer Intern | Chennai, Tamil Nadu

- Contributed to full-stack development projects, for the website - SGBC-IITM, building responsive front-end interfaces with HTML, CSS, Bootstrap and JavaScript and scalable backend systems using Django.
- Deployed the website in AWS-S3 bucket and re-routed using route 53.
- Managed and queried MySQL databases to support application development and automated data tasks using advanced Excel macros.

- Developed insightful Power BI dashboards to visualize workflow processes and performed SEO optimization for the SGBC webpage.
- Performed Search Engine Optimization (SEO) for the SGBC webpage to improve its online visibility.
- [visit - SGBC-IITM](#)

PROJECTS

Xpresshealth AI Automation Ecosystem

- **Overview:** Architected a comprehensive AI agent ecosystem to automate healthcare staffing, reducing manual processing latency from 5 minutes to under 45 seconds.
- **Intent-Based Agents:** Engineered an intent-based AI agent using **LangChain** and **Google Gemini** to parse natural language requests for bulk shift processing and cancellations.
- **RAG Knowledge System:** Deployed a Retrieval-Augmented Generation (RAG) system using **Pinecone** to automate staff inquiries regarding payroll and complex leave structures.
- **Dynamic Voice AI:** Integrated **ElevenLabs** and **Google Live** APIs to autonomously coordinate shifts with staff via voice. Developed a scoring algorithm to prioritize candidates based on location and history.
- **HR Pipeline:** Automated the recruitment pipeline using Elevenlabs **SendGrid/Mailtrap** for interactive onboarding and communication, reducing manual HR effort by 80%.
- **Tech Stack:** Python, FastAPI, n8n, LangChain, Vertex AI, Redis, MongoDB, Twilio, mailtrap, zohomail webhook, elevenlabs agent.

Agentic Documentation Navigation system

- Developed an AI-agent that can fetch, analyze, summarize, compare, and navigate the user through any documentation based on the user queries.
- Implemented RAG search in pinecone to smartly identify the user questions and respond with iterative thinking using gemini-function calling for accurate decisions
- Smart understanding between versions of the documents like V2.3 and V3.4 and responding accordingly with older and latest versions of the documents
- **Business usecases :** Law firms, news articles, technical documentations, large medical reports, policies documents

n8n Workflow Automation

- **Telegram - Bot :** Medical support chat agent integrated with Gemini, Telegram bot, and mongoddb for personalized support with user's medical history, chat data and smart alert system for serious escalations, Implemented Elevenlabs agent to communicate with the patients for mental support.
- **Reddit automation :** Retrieves recent popular posts from specified Reddit communities, Filters content by engagement metrics and keywords, Analyze with AI to Identify Business Opportunities
- **Niche specific chatbot :** developed email automation for policy related queries using Gemini. Pinecone, RAG. also supports followup questions with memory

AI based live flood detection and alerting system for Tamilnadu

- Implemented Google grounding to leverage the capabilities of flood risk monitoring.
- Multiple live inputs such as reservoir data, weather data, historic flood data, and also satellite imagery to analyse the probability of flood risk and automatically alert users using twilio when risk reached certain threshold

Strategic Implementation of PocketQube Satellites

- Designed IoT devices for a smart campus management system focusing on energy and pollution monitoring utilizing ThingSpeak server.

Single Stock Estimation of Indian Banks using LSTM

- Developed an LSTM-based machine learning model to analyze and predict stock behavior of Indian banks by conducting correlation analysis on market patterns.

EDUCATION

Dr. M.G.R. Educational and Research Institute **2020 – 2024**
Chennai, Tamil Nadu B.Tech in Computer Science Engineering (Artificial Intelligence)

GPA: 8.5/10.0

CERTIFICATIONS

Full Stack Internship	IIT Madras (Nov 2023)
Data Analytics Stack	Tableau, Power BI, SQL, Advanced Excel (Itvedant, 2024)
Network Fundamentals	Cisco Netacad (Jun 2023)

LANGUAGES & PUBLICATIONS

- **Languages:** English, Telugu, Hindi, Tamil
- **Patent:** Developing efficient methods for tracking the location, status, and maintenance needs of oxygen cylinders [Springer] [IPI-202441000295]

Signature: VIGNESH CHINTHAKUNTALA