

# VASANTH SHANKAR N

AI/ML Engineer

☎ 9952463879

✉ [vasanthrohith777@gmail.com](mailto:vasanthrohith777@gmail.com)

🔗 <https://github.com/vasanthrohith>

🌐 [LinkedIn](#)

## Education

**Kongu Engineering College**

**June 2018 - May 2022**

B.Tech - Chemical Engineering

## EXPERIENCE

**Connected Value Health Solutions**

**July 2023 - Current**

**AI/ML Engineer**

- Developed domain-specific chatbots utilizing a mix of proprietary and open-source large language models (LLMs), including OpenAI, Gemini, LLaMA 2, Gemma and Mistral from the Hugging Face platform. Tailored chatbots to encapsulate targeted knowledge bases, enhancing user interaction and query resolution accuracy within specific domains.
- Spearheaded the fine-tuning of transformers using specialized protocols such as SFTP, PEFT, LORA, and QLORA. Focused on domain-specific datasets, particularly from the U.S. health insurance sector, to refine model performance and relevancy. Successfully deployed enhanced LLMs on the Hugging Face platform, demonstrating significant improvements in model precision and user engagement.
- Led the deployment of advanced AI frameworks such as Langchain, Llama-Index, and Haystack to construct a Retrieval-Augmented Generation (RAG) pipeline. This initiative aimed to enhance the accuracy of responses and significantly reduce the occurrence of model hallucinations, setting a new standard for response reliability in AI applications.

**Newgen softwares**

**February 2022 - February 2023**

**Application Engineer**

- Addressed and resolved complex software issues by managing bug fixes for Level 2 and Level 3 support tickets. This role involved detailed troubleshooting and direct patching to ensure optimal software performance and reliability.
- Oversaw the deployment of company software on sensitive banking servers, ensuring rigorous compliance with security protocols and financial regulations. Successfully coordinated between development teams and bank IT departments to guarantee seamless integration and minimal downtime.

## PROJECTS

**Training Nexus**

- Training Nexus is a comprehensive learning platform specifically designed for medical coding trainees. The platform aims to enhance the learning experience by integrating AI-based tools to facilitate better understanding and assessment of medical coding concepts. As a module lead, I spearheaded the development of AI-driven tutor and assessment bots, along with various other significant features to ensure the platform's efficacy and security.
- AI-based Tutor/Assessment Bots : Developed bots capable of generating Multiple Choice Questions (MCQs) from provided source content using advanced models such as OpenAI, Mistral, and Whisper v2 large.
- Continuous Integration and Continuous Deployment (CI/CD) : Established a robust CI/CD pipeline to automate deployment processes, ensuring seamless updates and maintenance of the platform.
- Data Security and Compliance : Worked extensively with sensitive medical-related data, implementing data encryption and secure access protocols to protect user information and ensure regulatory compliance.

**Precuim AI**

- An innovative artificial intelligence tool enabling users to create personalized assistant chatbots. This platform supports diverse content inputs, including PDFs, videos, audio files, and various other file extensions, allowing users to tailor the knowledge base of their chatbots comprehensively.
- Managed data preprocessing across multiple extensions, ensuring clean and structured inputs for machine learning models to optimize performance.
- Enhanced chatbot capabilities by implementing algorithms for contextual memory, reducing response inaccuracies and improving conversational flow.
- Integrated chatbots with an SQL database, enabling them to execute complex NLP-based database queries efficiently.
- Implemented a Retrieval-Augmented Generation (RAG) pipeline to filter and refine chatbot responses, enhancing relevance and meeting user expectations effectively.

**Medical EBV (Electronic Benefit verification)**

- Developed a web app for Medical EBV (Electronic Benefit Verification).
- Enabled drug coverage search within insurance plans using PDF parsing and data mapping.
- Utilized Faiss and ChromaDB for efficient data storage and retrieval.
- Employed LLM agents for copay calculations.

**Mistral AI Hackathon - 2024 - International (SHORTLISTED)**

**Baymax**

- AI-driven Diagnosis Assistance : Created an AI-powered tool to assist healthcare professionals with timely and accurate diagnosis by processing large volumes of medical data and identifying patterns and symptoms.
- Enhanced Medical Information Accessibility : Developed a system that provides quick access to reliable medical information, reducing delays in diagnosis and treatment, and alleviating strain on healthcare providers.
- Patient Empowerment : Designed features to help patients understand their conditions and follow recommended health management steps, improving patient outcomes and engagement in their own healthcare journey.

**WhatsApp Medi Buddy**

- Enhanced Patient Support Programs : Developed a WhatsApp-based patient support system that streamlined communication channels and automated patient program enrollment processes, leading to improved efficiency and reduced delays in patient care.
- Real-time Patient Updates : Implemented features for real-time status updates on lead conversion, copay balance, prior authorization, adverse event reporting, and case status, enhancing transparency and patient satisfaction.
- Compliance and Patient Experience : Addressed compliance risks and optimized patient experiences by creating an integrated solution that ensures timely support and accurate information dissemination.

**Pertrofac**

- Orchestrated deployment of company product across development, UAT, and Production environments on client servers.
- Streamlined customer Change Request Form (CRF) workflows in collaboration with the team.
- Addressed technical issues and configured the product to meet client requirements, facilitating seamless communication between customers and the technical team.

**TECHNICAL SKILLS**

**Developer Tools:**

- VS Code,
- google colab,
- Langsmith,
- Langserve,
- chroma client,
- AWS Cloud.

**Technologies:**

- Docker,
- GitHub,
- Github Actions,
- AWS - Code Commit,
- CI/CD,
- s3 (Amazon Simple Storage Service),
- EC2 (Amazon Elastic Compute Cloud), ,
- EFS (Amazon Elastic File System),
- ELB (Elastic Load Balancing).

**INTERNSHIPS**

**IMAGECON**

**February 2023 - June 2023**

**Role:** AI/ML Intern