

# VASANTH BANOTH

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## EDUCATION

Indian Institute of Information Technology, Kota

B.Tech in Computer Science & Engineering

Kota, Rajasthan

Nov 2022 – May 2026

## EXPERIENCE

Software Engineer Intern

Jan 2025 – Apr 2025

Indian Institute of Information Technology, Kota

Kota, Rajasthan

- Refactored the official IIIT-Kota website using **React**, **Node.js**, and **Tailwind**, significantly improving codebase maintainability.
- Optimized critical rendering paths and implemented caching strategies, reducing page load time by **40%** and boosting PageSpeed score by **30 points**.
- Enhanced mobile responsiveness and cross-browser compatibility, resulting in a **15% increase** in mobile traffic and a **10% reduction** in bounce rate.

## PROJECTS

FitFrame: Real-time Posture Analysis Engine | *Next.js, Flask*

[Live Demo](#) | [GitHub](#)

- Engineered a high-performance computer vision pipeline using **MediaPipe** to detect 33+ body landmarks with **sub-100ms latency**.
- Optimized **k-NN classification algorithms** for pose estimation, reducing computational complexity by **85%** while maintaining 90% detection accuracy.
- Developed a full-stack web application with a **Next.js (SSR)** frontend and **Flask** backend, utilizing MVC architecture for clean code separation.

Medi-Core: Medical RAG Platform | *Python, LangChain, Pinecone*

[GitHub](#)

- Built a Retrieval-Augmented Generation (RAG) system using **LangChain** and **Pinecone** vector database to enable millisecond-latency semantic search.
- Designed a robust document ingestion pipeline to parse unstructured medical PDFs, reducing manual retrieval time by **60%**.

NewsScanAI: Distributed News Analysis System | *FastAPI, Docker, YOLO*

[GitHub](#)

- Architected an asynchronous **FastAPI** microservice for newspaper digitization, orchestrating YOLO for layout segmentation and PyTesseract for OCR.
- Implemented **Docker** containerization to isolate dependencies, ensuring consistent deployment environments and reducing CI/CD pipeline build times by **40%**.
- Integrated Google Gemini 2.0 via API for context-aware summarization, creating a scalable pipeline for automated news synthesis.

## TECHNICAL SKILLS

**Languages:** C, C++, Python, JavaScript, TypeScript, Java, SQL

**Core Concepts:** Data Structures & Algorithms (DSA), DBMS, Operating Systems, OOP, Computer Networks

**Backend:** Node.js, Express.js, Flask, FastAPI, REST APIs, Microservices

**Frontend:** React.js, Next.js, HTML, CSS, Tailwind CSS

**Data & AI:** OpenCV, MediaPipe, Pandas, NumPy, Scikit-learn, RAG, LangChain

**DevOps & Tools:** Git, Docker, CI/CD, AWS, GCP, VS Code, Linux

## ACHIEVEMENTS

**Competitive Programming:** Solved **250+ DSA problems** on LeetCode/Codechef, utilizing Dynamic Programming and Graph Theory to optimize solution runtime.

## LEADERSHIP & ACTIVITIES

**Quills & Stills:** Led a cross-functional team of 5 designers as Team Lead, managing delivery of digital publications using agile methodologies.

**FIT INDIA CLUB:** Coordinated operations for 8+ large-scale events, driving a **40%** increase in attendance via data-driven outreach.