

Shubham Verma

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EDUCATION

Vellore Institute of Technology

Bhopal, Madhya Pradesh

Bachelor of Technology in Computer Science Engineering *with Specialization in Health Informatics 4 Years Program (2026)*

Overall GPA: 7.7/10.0

SKILLS

Languages	Python, C++, Java, Kotlin, SQL, HTML/CSS
Python Frameworks and Libraries	BeautifulSoup, Seaborn, LangChain, Pandas, NumPy, OpenCV, Scikit-Learn, Flask, Pinecone
Tools & Platforms	Git, GitHub, Google Colab, Android Studio, MySQL, HuggingFace

PROJECTS

- **Diabetes Risk Classifier (Custom KNN Implementation) | Python, NumPy, Pandas**
 - Architected a custom K-Nearest Neighbors (KNN) classifier from scratch using NumPy, focusing on optimized distance-vector calculations for medical diagnostic data.
 - Achieved a predictive accuracy of 69.83 through hyperparameter tuning ($k=5$) and rigorous validation on standardized clinical features (Glucose, BMI, Age).
 - Conducted Exploratory Data Analysis (EDA) to address class imbalances and visualize feature correlations, ensuring robust data preprocessing for the classification engine.
- **Medical Chatbot (End-to-End RAG Pipeline) | Python, LangChain, Pinecone, Google Gemini**
 - Architected a Retrieval-Augmented Generation (RAG) system tailored for the healthcare domain, mitigating LLM hallucinations by grounding responses in verified medical literature ("The Gale Encyclopedia of Medicine").
 - Engineered a vector search pipeline using LangChain for text chunking and Pinecone as the vector database, enabling sub-second semantic retrieval of relevant medical context.
 - Integrated Google Gemini Pro to synthesize retrieved data into accurate, context-aware answers, serving the model via a robust web interface.

EXTRACURRICULAR ACTIVITIES

- Member Of Data Science Club
- Data Science Nights 2.0 (25 November 2023)
- Participated in "Corporate Role Play" (16 November 2022)

EXPERIENCE

Android Development Intern | Ashva Wearable Technologies Pvt Ltd. Sep 2024 – Jan 2025

- **Project: Hip Navigation**
 - Engineered a cross-platform Android application using **Kotlin Multiplatform (KMP)** to interface with two distinct firmware architectures.
 - Designed a responsive User Interface (UI) utilizing **Jetpack Compose** and XML for optimal user experience.
 - Implemented **Sensor Fusion** algorithms to track real-time Pitch and Yaw, visualizing the alignment of metal implants for the *Fit Knees* product.
 - Integrated **Firebase** for secure user authentication and real-time data storage.

CERTIFICATIONS

- Applied Machine learning in python (Coursera Course)
- Introduction to C++s (Simplilearn Course)
- Python Essentials (Vityarthi Course)
- Data Science with Python (iamneo)
- Computer Vision(VITyarthi Course)
- Java Development on Oracle Cloud (Oracle)
- Oracle Cloud Infrastructure 2025 Certified Generative AI Professional (Oracle)
- Oracle Cloud Infrastructure 2025 Data Science Professional (Oracle)
- Oracle AI Vector Search Professional (Oracle)