Kanha Khantaal is an innovative Computer Science professional specializing in artificial intelligence, machine learning, retrieval-augmented generation (RAG) systems, computer vision, and full-stack development. He is passionate about creating intelligent solutions using technologies such as Python, TensorFlow, PyTorch, and AWS. Kanha has demonstrated skills in chatbot development, optical character recognition (OCR), and automation, alongside leadership and mentorship roles that have driven technological advancements. He is currently pursuing a Bachelor of Technology in Computer Science and Engineering at Vellore Institute of Technology (VIT), India, maintaining a CGPA of 8.89/10.00. His academic journey includes major projects involving large language models (LLMs), Transformers, and RAG systems. His coursework spans foundational and advanced topics such as calculus, differential equations, programming in Python and Java, probability and statistics, discrete mathematics, computer architecture, theory of computation, database systems, operating systems, artificial intelligence fundamentals, compiler design, computer networks, AWS solution architecture, software engineering, embedded systems, cryptography, and network security. Kanha's technical skill set is extensive, covering programming languages like C, C++, Python, Java, and SQL, as well as libraries and frameworks including NumPy, Pandas, Matplotlib, TensorFlow, Keras, PyTorch, Scikit-learn, OpenCV, Hugging Face, LangChain, Flask, Django, FastAPI, Streamlit, and ReactJS. He is proficient in machine learning architectures such as CNN, RNN, and LSTM, and has experience with databases like MongoDB and MySQL, cloud platforms like AWS, and data visualization tools such as Power BI and Tableau. His certifications include Machine Learning from Deeplearning.ai and Azure Data Fundamentals from Microsoft.

Among his academic projects, Kanha developed "Krep," a RAG-based study helper that centralizes course materials and integrates multiple PDFs into an interactive graph-based interface with dynamic checklists and QA features powered by LLMs. He also created "Nex-Bot," a dual-variant RAG chatbot with a terminal mode for non-technical users and a Streamlit platform for document upload and interactive queries. Additionally, he worked on an advanced computer vision-based hand gesture recognition system optimized for low-end devices using optical flow, RCNN, LSTM, and GANs for enhanced accuracy. In his professional experience, Kanha developed a custom RAG-based chatbot for a hospital, automating patient query handling with Python, LangChain, and custom vector embeddings, which improved communication and operational efficiency. He also built a scalable OCR page-text detection system using Pytesseract, FastAPI, R-CNN, and Azure cloud services, enabling real-time text extraction and categorization via a mobile app. Earlier, he contributed as a designer for Aansh Hospital & IVF Center, creating logos and user interfaces with Figma and Adobe XD. Kanha holds leadership positions such as General Secretary and ML Moderator at the Mozilla Firefox Club at VIT, where he has

led AI/ML initiatives, mentored teams, managed large participant groups, and enhanced organizational efficiency through structured mentorship and data-driven communication.

Beyond his technical expertise, Kanha excels in solving critical problems through quick decision-making, efficient roadmapping, and strategic planning. His analytical mindset allows him to break down complex challenges into manageable components, developing systematic approaches to technical problems. When faced with obstacles, he demonstrates exceptional adaptability, creating alternative pathways and innovative solutions. Outside of his academic and professional pursuits, Kanha maintains a diverse range of personal interests that contribute to his well-rounded personality. He is an avid gamer and basketball player, activities that have enhanced his ability to think rapidly under pressure and develop team coordination skills. Kanha also nurtures his creative side through art and music production, which provide expressive outlets that balance his technical focus and allow him to explore creative solutions. As an enthusiast of sci-fi thriller movies and series, he draws inspiration from futuristic concepts and technological narratives that often spark ideas for his technical projects. Kanha consistently seeks out new challenges and domains to explore, maintaining a growth mindset that drives continuous learning and expands his expertise beyond traditional boundaries. For professional inquiries and collaborations, he can be reached at +91 70006 37572 or kanhakhantaal@gmail.com.