ARUNKUMAR K R

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Objective

As a Computer Science and Engineering student with a strong focus on **Machine Learning and Artificial Intelligence**. Experienced in building, evaluating and deploying ML, NLP and Computer Vision models as production-ready services. Seeking for opportunities to explore and contribute across diverse technology to apply data-driven approach, problem solving and model deployment skills to real-world applications.

Education

KPR Institute of Engineering and Technology, Coimbatore — 2023 – 2027
B.E. Computer Science and Engineering — **CGPA: 8.86**
Kongu Vellalar Matriculation Higher Secondary School, Perundurai — 2022 – 2023
Higher Secondary Education — **HSC: 94.6**

Technical Skills

- **Programming:** Python, SQL, Java, C
- **Generative AI & LLMs:** Transformers, LangChain, RAG, Vector Embeddings, Prompt Engineering
- **Machine Learning:** Scikit-Learn, TensorFlow, Pandas, NumPy, XGBoost, OpenCV, CNN, YoloV8
- **Vector DB & Storage:** ChromaDB, MongoDB, SQLite
- **Backend & Tools:** Docker, Git, Linux, Streamlit, FastAPI, React.js, Node.js, Flask

Internship Experience

SmartED Innovations — Machine Learning Intern — May 2025 – Jul 2025

- Built and deployed Machine Learning models as scalable web services using FastAPI and Docker.
- Worked on end-to-end ML pipelines including data preprocessing, model training and inference serving.

Projects

RouteX - PDF Routing System ↗ — GitHub
Python, PyMuPDF, Tesseract OCR, NLP
- Developed an AI-based PDF routing system using hybrid text extraction and OCR for scanned documents.
- Applied NLP techniques for document summarization and department classification.

Just-Chat - RAG Based Chatbot ↗ — GitHub
Python, LangChain, ChromaDB, Transformers
- Designed a **Retrieval-Augmented Generation (RAG)** system for answering legal queries from documents.
- Implemented semantic search using vector embeddings and contextual LLM-based response generation.

Weather Prediction using Machine Learning — GitHub
Python, Scikit-learn, TensorFlow
- Trained and evaluated predictive ML models using historical temperature and humidity datasets.
- Built an end-to-end ML workflow from data preprocessing to model inference deployment.

Encrypted Password Manager — GitHub
Java, AES Encryption, CLI
- Designed and implemented a command-line password manager using AES encryption for secure credential storage.
- Enabled encrypted password creation, retrieval, and management to demonstrate secure data handling concepts.

Certifications & Achievements

- Paper Publication: Published a paper on the title **Real-Time Surface Defect Detection and Hardness Prediction in Metals using YOLOv8** on 3rd ICEAMST at RV College of Engineering
- DSA Problems: Solved 400+ problems across various competitive coding platforms like Leetcode, Hackerrank
- Completed RedHat Certified System Administrator **RHCSA** Certification.
- Hackerrank Certifications: Problem Solving(Intermediate), Problem Solving(Basics), Python, Java, SQL(Basics)
- Completed **OpenCV Bootcamp** Certification offered by OpenCV University.