Mayank Kumar

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Education

- **RNS Institute of Technology** — Bangalore, India
  Bachelor of Engineering - Artificial Intelligence and Machine Learning; GPA: 8.65 — *August 2023 - August 2027*
  Courses: *Operating Systems, Data Structures, Analysis Of Algorithms, Artificial Intelligence, Machine Learning, Networking, Databases*

Skills Summary

- **Languages**: C, C++, Python, SQL
- **Frameworks**: Scikit, Pandas, Seaborn, TensorFlow,NumPy, ReactJs
- **Tools**: HuggingFace, Docker, GIT, MySQL, SQLite
- **Platforms**: Windows, Web, Linux, AWS, GCP, Firebase, MS Azure
- **Soft Skills**: Leadership, Event Management, Writing, Public Speaking, Time Management

Experience

- **Codsoft (Ministry of Micro, Small & Medium Enterprises (Govt. of India))** — Remote
  Student Developer (Full-time) — *Aug 2024 - Sep 2024*
  - **Rule-Based Chatbot**: Engineered an interactive rule-based chatbot capable of generating context-aware responses to user inputs through predefined conversational logic, strengthening proficiency in conversational AI, natural language processing (NLP) fundamentals, and dialogue flow management.
  - **Recommendation System**: Designed and implemented an AI-powered recommendation system that analyzes user preferences to deliver personalized item suggestions, leveraging recommendation algorithms and data-driven decision-making techniques to enhance user experience.
  - **Tic-Tac-Toe AI Agent**: Developed an intelligent Tic-Tac-Toe AI agent in Python capable of competing against human players by implementing strategic decision-making algorithms, demonstrating expertise in game AI, search techniques, and algorithmic problem-solving.

Projects

- **Crowd Unified Risk Evaluation (CURE) – AI-Based Disease Risk Assessment System**:
  - Built an AI-driven platform to predict **7-day disease outbreak risk** using environmental and climatic data.
  - Trained and evaluated **Random Forest, XGBoost, and LSTM** models, achieving **83% accuracy**.
  - Integrated **OpenWeather** and **Google Maps APIs** for real-time weather and geospatial data analysis.
  - Developed a scalable ML pipeline for automated prediction and public health risk assessment.
  - **Tech:** Python, Scikit-learn, TensorFlow/Keras, Pandas, NumPy, OpenWeather API, Google Maps API, JavaScript.
- **PixelTrace – AI-Powered Forensic Watermarking for Live Sports Streaming Piracy Detection**:
  - Developed a forensic watermarking system to trace pirated live-streamed videos to individual subscribers.
  - Implemented multi-frame watermark extraction resilient to compression, cropping, and noise.
  - Built a FastAPI backend with SQLite and automated forensic PDF report generation.
  - Deployed the complete application on Google Cloud with a Streamlit interface.
  - **Tech:** Python, FastAPI, Streamlit, OpenCV, SQLite, Google Cloud, ReportLab.
- **RakshaNet – AI-Based Deepfake Detection System**:
  - Developed a CNN-based deepfake detection model for identifying manipulated images and videos.
  - Implemented image preprocessing and facial feature extraction to improve detection accuracy.
  - Built a React Native mobile application for real-time deepfake detection.
  - Optimized inference for fast and reliable media authentication.
  - **Tech:** Python, TensorFlow/PyTorch, OpenCV, React Native, Android Studio.

Publications

- **Research Paper**: Random Forest and XGBoost-Based Health Monitoring System for Disease Risk Prediction Using Climatic Indicators.

Honors and Awards

- Shortlisted among the **Top 60 teams** out of **1,500+ participants** in the **IEEE YESIST 2026** international innovation competition.
- Research paper accepted for presentation at the **International Conference on Information and Communication Technology for Intelligent Systems (ICTIS 2026)**, Thailand.
- Solved **150+ Data Structures and Algorithms (DSA)** problems across **LeetCode** and **Codeforces**, strengthening problem-solving and algorithmic thinking.