KUMAR GAUTHAM

Computer Science Undergraduate

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Profile

Final year **Computer Science** undergraduate specializing in **Artificial Intelligence**, with a strong foundation in **machine learning**, **deep learning**, and **natural language processing**. Experienced in building AI and ML models, working with complex datasets, and applying data preprocessing techniques effectively. Skilled in **Python** and deeply interested in using AI to solve real-world problems, especially through technologies like **Large Language Models** and **Agentic systems**. Eager to apply academic knowledge to real-world data challenges, while continuously learning and growing under the guidance of experienced professionals. A quick learner with strong communication skills, capable of working independently and performing well in dynamic, cross-functional team environments.

Education

BSc.(Hons) in Computer Science (Artificial Intelligence Specialization) | Current GPA 3.20   2022 - Present
University of Kelaniya, Sri Lanka

G.C.E Advanced Level - Physical Science Stream | Z-score 1.5164   2020
Combined Mathematics(A), Physics(B), Chemistry(B)

Projects

Real-Time Face Mask Detection System | 🔗 | 🔗

- A Real-Time Face Mask Detection System using **Deep Learning** and **Computer Vision** techniques. The project utilized a **MobileNetV2**-based model built with **TensorFlow** and **Keras** for accurate mask classification, while face detection was achieved using **OpenCV**'s DNN module with a pre-trained **SSD Caffe model** for speed and precision. Real-time analysis of image and video streams was implemented, featuring live bounding box annotations and compliance messages. Training data was gathered through the **Bing Image Search API**, and **transfer learning** techniques were applied to ensure efficient model training and performance optimization.

Chronic Kidney Disease Prediction | 🔗 | 🔗

- A Chronic Kidney Disease (CKD) prediction model using **Decision Tree Classification**, optimized through **Grid Search** for improved performance. Focused on five key features to enhance accuracy, with evaluation done using a **confusion matrix**. The model was trained on preprocessed data sourced from **Kaggle** and deployed using a **Django**-based backend and a **Bootstrap**-styled frontend. Development and experimentation were carried out in **Jupyter Notebook** using Anaconda Prompt.

Echo Express - News Summarization Platform | 🔗 | 🔗

- A News Summarization Platform that collects news from various sources using **API**s and **RSS feeds**, and delivers concise summaries powered by the **DunnBC22/pegasus-multi_news NewsSummarization_BBC** model from **Hugging Face**. Integrated a personalized **recommendation system** based on user interactions and preferences, along with a search feature for topic and keyword-based news discovery. The platform includes a Django-based admin panel for managing users, articles, and system settings. The frontend was built using **HTML**, **CSS**, and **JavaScript**, while the backend utilized **Django** and **Hugging Face Transformers** for AI-driven summarization.

Technical Skills

- **Programming Languages:** Python, Java, C#, C
- **Database Management Systems:** MySQL, PostgreSQL
- **Software Development:** OOP, Data Structures and Algorithms, Spring Boot, HTML, CSS, JavaScript
- **Artificial Intelligence & Data Science:** Machine Learning, Deep Learning, Natural Language Processing, Time Series Analysis, Computer Vision, Neural Networks, Generative AI, AI Agents, LLMs, RAG, LangChain, VectorDB, Data Preprocessing, Feature Engineering, Data visualization
- **Technologies:** Pandas, NumPy, Scikit-learn, NLTK, Matplotlib, Seaborn, TensorFlow, PyTorch, AutoGen, Replit, Voiceflow, Hugging Face, OpenCV, Django, Flask, Chroma, Power BI, Tableau, Google Data Studio, Git, GitHub, AWS, Google Cloud, Microsoft Azure, Docker, Kubernetes

Certificates

- Foundational C# with Microsoft | [↗]
- Artificial Intelligence Fundamentals with Great Learning Academy | [↗]

Extra-Curricular Activities

- **Digital Media Manager** (ISACA Student Group University of Kelaniya) — **2024** - Present
- **Skilled Video Editor** (Adobe Premiere Pro, Adobe After Effects, DaVinci Resolve) — **2020** - Present
- **Graphic Designer** (Adobe Photoshop, Adobe Illustrator) — **2020** - Present
- **Filmmaker** (2nd Place in "Chalana Roo" short film competition, organized by Women & Children's Affairs Division, Department of Labour, Sri Lanka, on the theme of "Let's End Child Labour") - Link — **2021**
- **Part-time Cricketer**

References

Dr. M I. Sabar
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