

Aman Kumar

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EDUCATION

| Degree/Certificate | Institute/Board | CGPA/Percentage | Year |
|--------------------|---------------------------------------|-----------------|--------------|
| B.Tech. Major | Indian Institute of Technology Indore | 8.57 (Current) | 2021-Present |
| Senior Secondary | DAV Model Durgapur, CBSE Board | 96% | 2021 |
| Secondary | Bidhan School, ICSE Board | 93.8% | 2019 |

RESEARCH WORK

- **GCM-Net: Video Sentiment and Emotion Analysis** April 2023 - Feb 2024
Paper Submitted Github
 - Identified literature gaps to develop a unified deep learning framework in NLP to extract two sentiments and four emotions from diverse modalities, incorporating the Sine-Cosine Algorithm to improve computational efficiency.
 - Developed advanced deep learning techniques utilizing GraphSage, improving sentiment prediction accuracy by 4.5% over the current state-of-the-art and achieving a 6.2% improvement in predicting emotions.

PROJECTS

- **PDF Question Answering** May 2024 - June 2024
Web application allowing you to query on mmultiple PDF files. GitHub
 - Developed an application for question answering on PDFs up to 50 pages using Langchain and Google's Palm language model, implementing Retrieval-Augmented Generation (RAG) for accurate responses.
 - Built an interactive Streamlit app for real-time querying, utilizing ChromaDB for vector storage and quick retrieval, cutting query response time by 10%.
 - Technology Used: Python, Langchain, ChromaDB, Hugging Face Transformers, Streamlit, Google Palm.
- **Night Canteen Management Website** Jan 2023 - Feb 2023
A Full Stack Web Development Self Researched Project Github
 - Implemented three key features: online food ordering, an Admin Panel for menu management, and user authentication, ensuring seamless functionality across devices using RESTful APIs.
 - Optimized database queries and frontend components for performance, resulting in smooth user experience and efficient data management.
 - Technology Used: JavaScript, ReactJs, ExpressJs, MongoDB, NodeJs
- **Face Emotion Recognition System** July 2022 - Aug. 2022
IITISoC'22, IIT Indore Github
 - Coordinated a team of four in developing an advanced Emotion Detection System for IIT Indore's Summer of Code, leveraging state-of-the-art techniques and pre-trained models such as ResNet50 and VGG16.
 - Achieved precise classification across seven distinct emotions using the FER 2013 dataset, enhancing model performance through iterative training, validation, and sophisticated computer vision methodologies.

TECHNICAL SKILLS

- **Programming Languages:** C++, Python, JavaScript
- **Web Developmet:** ReactJs, NodeJs, Express, MongoDB, MySQL, HTML, CSS, Bootstrap, Material UI, Flask
- **Libraries/Framework:** LangChain, Numpy, Pandas, Tensorflow, OpenCV, Scikit-learn, NLTK
- **Tools:** Jupyter, Git/GitHub, Visual Studio Code, Android Studio, Docker

KEY COURSES TAKEN

- **Computer Programming:** Data Structures & Algorithm, Competitive Programming, OOPs, Database Management and System, Computer Network, Operating Systems, Computer Architechture & Algorithm, Software System Design
- **Mathematics:** Linear Algebra, Basic Calculus, Differential Equation, Complex Analysis, Numerical Methods

POSITIONS OF RESPONSIBILITY

- **Member, App Division,**Developer Students Club (DSC), IIT Indore May. 2023 - Present
- **Member,**Electronics Club, IIT Indore May. 2023 - Present

ACHIEVEMENTS

- **Bronze Medal,** AI/ML Division, IITISoC'22, IIT Indore Link
- **Max Rating - 1508 (Specialist),** on Codeforces. Link
- **Secured,** a global rank of 121 out of 15000+ participants in CodeChef Contest. Link
- **Achieved,** rankings 618, 1327, 2081 at different Codeforces rounds. Link
- **Ranked,** 8597th out of 140,000+ candidates in the JEE Advanced examination 2020 - 2021