Abhay Chaudhary

☎+91-6307-841943 | abhay.chaudhary21b@iiitg.ac.in | LinkedIn | A-b-h-a-y-0-2

Education

Indian Institute of Information Technology, Guwahati — Assam, India
Bachelor of Technology in Computer Science — *July 2021 – Present*

Internships And Work Experience

Machine Learning Intern — August 2024 - Present
Under Magnifi — *Videoverse*

- Engineered and augmented machine learning models for video analysis by integrating **LLMs** and **VLMs**, resulting in a *30%* improvement in semantic understanding and interactivity of sports content by *25%*.
- Conducted comprehensive AI model evaluations against industry benchmarks, ensuring *100%* adherence to production standards and supporting the successful deployment of three innovative video content analysis solutions that enhanced user engagement by *20%*.

Research Internship— **Paper** — January 2024 - July 2024
Under Dr. Pin-Yu Chen — *IBM Research,New York*

- Analyzed and implemented **mathematical models** based on research papers to establish benchmarks, writing over *80%* of the required Python code.
- Authored a research paper currently under **review at EMNLP 2024 proceedings**.

Research Internship — July 2024 - Present
Under Dr. Sanjay Kumar Singh — *IIT BHU*

- Developing a lightweight deep learning model tailored for **edge-optimized devices**, focusing on image classification and object detection.
- Expanded the **Xinet architecture** for edge devices, achieving full compatibility with *511KB* RAM while maintaining high accuracy using benchmark datasets, resulting in *15%* faster inference times and *20%* **reduction in model size.**

Projects

XAI-Enhanced Deepfake Detection System — January 2024 - May 2024

- Developed a Deepfake detection system using **XceptionNet** surpassing benchmark by *3%* accuracy.
- Achieved *92%* accuracy on the FaceForensic++ dataset and *89%* on the Celeb-DF dataset by analyzing over *50,000* frames, demonstrating the model's effectiveness across diverse datasets.
- **Applied Explainable AI** (XAI) techniques to provide visual explanations for *1,000* real and fake images, enhancing the transparency and interpretability of the detection system.

Finance Trading Platform — August 2023 - October 2023

- Engineered a comprehensive **financial trading platform** designed specifically for investors.
- Integrated **real-time market data feeds**, enhancing trading information accuracy by *20%*, which led to more informed decision-making and improved overall trading performance.
- Formulated advanced trading algorithms to optimize trading strategies and portfolio management.

Video-Action Recognition — May 2024 - present

- Utilized the **Nvidia-vid2vid** and **OpenGLabs videoMAE** frameworks to engineer an advanced video generation system, in an attempt to achieve state-of-the-art results in visual content synthesis.
- Refined a specialized model for action and movement capture, employing models with over *95%* accuracy, leading to **enhanced precision** in scene analysis and contributing to cutting-edge advancements in video analysis

Technical Skills

Languages: Python, C/C++, SQL (MySQL), Java, HTML, JavaScript, TensorFlow Lite, MicroPython
Frameworks & Libraries: Node.js, Flask, RestAPI, PyTorch, TensorFlow, HuggingFace, Keras, Django, TensorFlow Lite for Microcontrollers, Jira, Anyscale, DataDog, Notion
Developer Tools: Git, Docker, Google Cloud Platform, Amazon Web Services, VS Code, Jupyter Notebooks, Anaconda, Jenkins, Kubernetes, Arduino IDE
Technologies & Libraries: Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, Transformers, Tkinter, Selenium WebDriver, boto3, pygame, PIL, yagmail, Pillow, OpenCV, NLTK, spaCy, XGBoost, TensorFlow Lite Micro, ONNX, CoreML