Jayavibhav N K

LinkedIn | GitHub | Portfolio

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Education

New Horizon College of Engineering — Bangalore, Karnataka, India
B.E in Artificial Intelligence and Machine Learning — *2020 – present*
CGPA: 9.48

Technical Skills

Languages	:	Python, Java, C, Javascript, HTML, CSS
Frameworks/ Libraries	:	React.js, Tensorflow, Opencv, Keras, Flask, Transformers
Databases	:	MongoDB, MySQL, ServerSQL, Firebase
Dev Tools	:	Visual Studio Code, Pycharm, HuggingFace, Git
Cloud Tools	:	MLops using Azure, Google Cloud Platform, AWS

Experience

Artificial Intelligence Intern — July 2023 – *present*
Sparkflows — *Remote*

- Developed **backend methods** to ingest data from diverse sources into vector databases **FAISS and Weaviate**, enabling querying through **LangChain and LLama-Index**. Implemented **document question-answering, translation**, and **metadata-based retrieval capabilities**.
- Enhanced the GEN-AI platform leveraging **memory, cache, agents, text splitters, and sequential chains.**

Research Assistantship — Oct 2022 – Mar 2023
New Horizon College of Engineering — *Bangalore, Karnataka, India*
Worked under Dr. N V Uma Reddy, Prof and Head, AIML

- Developed a **3-layer LSTM model** to detect hand gestures sequentially, achieving **94% accuracy**. Further enhanced to support music composition and computer navigation.
- Built an **encoder-decoder** image captioning model combining ResNet, BiLSTM, and visual attention components, attaining a **BLEU score** of **0.55** for generating relevant captions.

Data Analyst Intern — Sept 2022 – Oct 2022
TekSystems Global Services — *Bangalore, Karnataka, India*

- Interned under the Data Analytics division; worked on **web scraping projects** in Python using **Selenium** to dynamically scrape stock details and store in Excel with xlsxwriter.
- Utilized **ServerSQL** to retrieve and display database information; stored user credentials in databases.

Projects

Gesture Recognition Using Machine Learning — *Python, Mediapipe, Tensorflow* — GitHub

- Developed An application that performs certain actions based on gestures performed by the user.
- Developed a Deep Learning **LSTM** model using **Mediapipe, keras and OpenCV** for gesture recognition and Pyautogui for computer navigation.

Comparative Analysis of Transformer language models — *Python, Transformers, Pytorch* — HuggingFace

- Comparative Analysis of Transformer language models for **detecting AI generated Text**.
- A datatset was created from multiple sources of data and included more than 50,000 samples of data.
- The transformers models included **BERT, RoBERTa, DeBERTa, DistilBERT and MPNET**.

Text Summarisation Website *Python, Transformers, HTML, CSS, Flask* GitHub

- Transformers based Text summarisation for Text, pdfs,images and Websites.
- Backend was implemented using HuggingFace **Transformer's summarisation model - 'T-5'** along with **Pytesseract-OCR** and Poppler.
- Frontend Developed Using **HTML, CSS and Javascript** and **Flask** was used for server side connection. Web scraping was done using Beatiful Soup in Python.

Blogify.ai - Blog Sharing Platform *MongoDB, Express, React.js, Python* GitHub

- Developed full-stack **blogging platform** with React.js frontend, FastAPI backend, and MongoDB database.
- Built **data analytics pipeline** with Pyspark, Yake, BERT, NLTK, and Wordcloud for keyword extraction, sentiment analysis, and word clouds.
- Implemented automated **image generation** with Fine-tuned **Stable Diffusion** using LoRA.

Certifications And Publications

- Generative AI with Large Language Models by Deeplearning.ai and Amazon Web Services
- Build Basic Generative Adversarial Networks (GANs) by Deeplearning.ai
- Published **Patent** on GESTURE CONTROLLED INTERACTIVE MUSIC COMPOSITION SYSTEM WITH THE CAPABILITY OF AUTOMATIC COMPOSITION, Publication Number - 202341020857, 2023
- Published **Patent** on REAL TIME HAND GESTURE RECOGNITION BASED ALTERNATE COMPUTER NAVIGATION USING FACE AUTHORISATION FOR REMOTE COMPUTER ACCESS, Publication Number - 202341007459, 2023
- Paper on "Visual Attention based Image Captioning" accepted in IEEE MRTM conference, 2023
- Paper on "Anti-Litter System using YOLOv5" accepted in IEEE MRTM conference, 2023

Achievements

- Runner's Up in **Builder's Camp hackathon** 2023, sponsored by **Intel and AWS** held in Bangalore. Developed a responsive chatbot using **Intel's Neural Compressor** acrchitecture on their **OneAPI** cloud platform.
- Top 5 Projects in "**Chainlink**" category and top 10 projects in "**FVM**" category in **EthForAll** (2023) blockchain hackathon by Devfolio, a **blog sharing platform** powered by AI tools secured a cash prize of **1500 US Dollars**.
- **Won Institutional Level** of **GeeksforGeeks Hackathon 2023, sponsored by AMD and Google** and Participated in **Regional level** competing with 75 other teams from 25 Top colleges from Southern India. Developed a Fitness tracker along with diet and fitness recommendation systems.
- **2nd Runner's Up** in "NMIT hacks 2023", **Hackathon** conducted by **Nitte Meenakshi Institute of Technology**, Bangalore.
- **Winner** of Hackzon Hackathon, New Horizon College of Engineering, 2022.
- **Winner** of New Horizon Idea Hackathon 2022.
- **Category Winner** in the Vectara hackathon 2023 organised by Lablab.ai, received a cash prize of **500 US Dollars** and **1500 Dollars** in Vectara credits. Developed an extension for legal research powered by RAG and Vectara.

Other Achievements

- Was awarded **Best Performing ISTE chapter student award 2023** by ISTE Karnataka State Section.
- Conducted a **workshop** on **"Introduction to Blockchain"** for 50 students at New Horizon College of Engineering .
- Nominated as **Head of Editorial Committee** for the Artificial Intelligence and Machine Learning branch(4th semester). Led a team of 8 members to publish the **Department Newsletter** for the previous semester.