

EXPERIENCE

- Wow Labz, Bangalore, Karnataka, India** | AI Developer Sept 2023 - Present
- Developed PoCs using image-to-image text style transfer models to **generate images with specific font-styled textual content** and text-to-image-to-video models to **generate visual storyboards** based on a textual context.
 - Worked on a prompt-engineered LLM-based Twitter bot for ICC Men's Cricket World Cup'23 to reply **optimistically** and with **personality-specific tonality**. Curated **knowledge base** to make replies factual.
 - Developed an **LLM-finetuned** and **RAG-based** chatbot to answer legal queries. Also worked on the feature of **automated legal document generation**. Deployed it as a microservice on the AWS Platform.
- Dubverse.ai, Gurgaon, India** | DL Engineering Intern January 2023 - July 2023
- Optimized the deployed **TTS Cross-Lingual Voice Cloning** model by **plotting graphs** between transcript and spectrogram-energy-frequency of generated speech for locating misaligned portions in generated speech.
 - Added language-specific and RegEx rules to lower Phoneme Error Rate by **9%**.
 - Scaled the optimized model to **4 new languages** by training on **200+ hours** of data over Google Cloud Platform.
- Google Summer of Code' 22 @ GAA, EMBL-EBI, United Kingdom** | [Project Page](#) June 2022 - September 2022
- Reduced data curation time by **40%** by developing **OligoFinder**, a **BioBERT**-based module fine-tuned for the task of **Name Entity Recognition** to extract Oligonucleotides from research papers automatically.
 - Developed active-learning pipeline using RegEx, NLTK and BOWs to curate a dataset of **7000 pairs of sentences**.
 - The resultant fine-tuned model achieved a Precision of **0.92**, Recall of **0.93** and F1 of **0.92**.
- Wow Labz, Bangalore, Karnataka, India** | Data Science Intern January 2022 - July 2022
- Implemented a **GAN-based Lip-synching** system that creates lip movements based on dubbed audio. The model is tuned on a custom-curated Indian speakers dataset to achieve a Lip Sync Error Distance of **6.512**.
 - Designed a Flask-based **Two-staged Resume Parser** that uses **YOLOv5** and **spaCyV3's RoBERTa** to extract **10 information** with overall test accuracy of **53.97%**. Scraped **~4000 resumes** for training and val using Beautiful Soup.
- DRDO, New Delhi, India** | Data Science Intern | Supervisor: Dr. Mohd Yousuf Ansari June 2022 - July 2022
- Developed a **Person Auto-tagging** system that labels renowned personalities across unlabeled photographs using **MTCNN** and **FaceNet**. Achieved **94%** and **98%** accuracy in face detection and recognition tasks, respectively.
- Erevna Enterprises Pvt. Ltd., Uttar Pradesh, India** | Machine Learning Intern January 2021 - February 2021
- Integrated face recognition-based **Automated Connection Invite Sender via Selfie** feature to **Gullu**, a social mobile application, reducing the average time spent earlier by a user in sending friend requests by **53%**.

PROJECTS

- Dissecting-Transformers** | Building and training vanilla Transformer from scratch ([GitHub](#)) for the task of Machine Translation and building Machine Translation web-app using SoTA Encoder-decoder Language Models ([GitHub](#)).
- Drishti** | [Project report](#) | Developed an initial-stage low-cost eye-wear assistive device for visually-impaired people and conducted a test with a group of participants. This project is part of my B.Tech thesis.
- Describer** | [GitHub](#) | InceptionV3 and LSTM-based image captioner finetuned on Flickr8K with a BLEU-1 score of 0.79.
- TalkingHand** | [GitHub](#) | VGG16-based Sign language-to-Text convertor fine-tuned on the custom dataset of six classes with 4000 images each collected using background subtraction and thresholding. Achieved val accuracy of 94.2%.
- Pehchaan** | [GitHub](#) | One-shot labeling tool to auto-label photographs by identifying name of the person(s) present in them.

EDUCATION

- Ajay Kumar Garg Engineering College, Uttar Pradesh, India** August 2019 – 2023
B.Tech in Electronics and Communication Engineering CGPA : 8.4/10

ADDITIONAL EXPERIENCES AND ACHIEVEMENTS

- Attended 5-days **Short Term Course** on Computer Vision and Intelligent Applications 2023 at NIT Kurukshetra.
- Participated in 3-days **Artificial Intelligence Summer School (AISS) 2023** organized by Infosys CAI, IIIT-Delhi.
- Second runner-up at **Plan2Hack 2022** conducted by Bharati Vidyapeeth's College of Engineering, New Delhi.
- National-level finalist at **Smart India Hackathon 2022** and State-level finalist at **Smart India Hackathon 2020**.
- Among the top-5 finalists in **IoT Challenge 2020** at UPES, Dehradun, in association with Aakaar'20 IIT Bombay

SKILLS

Research Interests: Deep Learning, LLM, Computer Vision, Natural Language Processing, Generative AI
Language & Tools: Python, Keras, Tensorflow, PyTorch, LangChain, FastAPI, Flask, Streamlit, Git, Postman, Qdrant, TensorBoard, NLTK, Huggingface, OpenCV, Scikit-Learn, Audacity, AWS, GCP, BeautifulSoup