

## EXPERIENCE

### Wow Labz, Bangalore, Karnataka, India | AI Developer

Sept 2023 - Present

- Experimenting with text-to-image models to **generate images with text in specific font styles** and image-to-video models to **generate visual storyboards** based on a given story/ context.
- Worked on a client project to develop a **prompt-engineered LLM-based** Twitter bot for ICC Men's Cricket World Cup'23 to reply in a **positive and personality-specific tonality**. Curated **knowledge base** to make replies factful.
- Developed an **LLM-finetuned and RAG-based** chatbot to answer legal queries. Also worked on the feature of **automated legal document generation**. Deployed 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