

Sanchit Lamba

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EDUCATION

Manipal University Jaipur

Bachelors of Technology in Computer Science and Engineering, Hons. in AI and ML

Jaipur, RJ

Aug. 2022 – May 2026

EXPERIENCE

Technical Instructor

Camp K12

January 2023 – April 2023

Remote

- Taught basics of python OOP to students ranging from classes 8th to 12th on an hourly rate

Freelance

Multiple clients

June 2023 – Present

Remote

- Freelance work for a few clients in field of web development and animation

PROJECTS

DocAssist-LLM | *Python, Qdrant, LangChain, Tensorflow, Numpy*

October 2023 – November 2023

sanchit.cc/dallm — [github.com/dallm](https://github.com/sanchit-lamba/dallm)

- The project implemented a Retrieval Augmented Generation(RAG) based approach to use internal/non public documentation alongside LLMs trained on regular data
- In the scope of the project we used Qdrant to form a vector database of the two javascript books and entirety of it's documentation which was scraped from their site.
- Each query asked by the user was ran through the Qdrant database and the returned results were ran through an LLM with the initial query and supporting results from the documentation.
- The LLM would then spew out a result relevant to the query and all this is possible even if the documentation isn't a part of the initial training data

Autonomous Vehicle Guidance System | *Python, CARLA, Keras, Tensorflow*

October 2023 – November 2023

sanchit.cc/avgs — [github.com/avgs](https://github.com/sanchit-lamba/avgs)

- Ingestion of data from the simulated lidars and cameras was done using a simple numpy array and opencv respectively.
- The RGBA data from OpenCV was then passed onto a CNN that simulated the camera data gathered from the car and the surrounding environment.
- A reinforcement learning model was fed all of the pre-processed input data, which included LiDAR point clouds and visual features from the CNN. By processing the combined sensor inputs, this model made use of Proximal Policy Optimization (PPO), which allowed the system to continuously interact with the simulated environment and learn the best driving behaviors.
- The reinforcement learning model was designed with a reward system that penalized crashes and dangerous driving behaviors while periodically rewarding safe navigation and adherence to traffic rules.

Drowsiness detection system | *OpenCV, numpy, matplotlib*

September 2023

sanchit.cc/dds — [github.com/dds](https://github.com/sanchit-lamba/dds)

- Trained a model to detect drowsiness among drivers to avoid crashes
- The model detects yawns and how open the eye is and gives out a drowsiness score to the driver
- Input data from the cameras is convoluted turned into an array after feature extraction is done
- The real time data gathered from multiple images is fed into the model trained using sample datasets sourced from kaggle with marked images

TECHNICAL SKILLS

Languages: Python

Developer Tools: Git, Docker, Azure, Bash, GNU/Linux, Nixos

Libraries: pandas, NumPy, Matplotlib, Tensorflow, OpenCV, Matplotlib, Keras, PyGame,