Gautam Ranka

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Education

Visvesvaraya National Institute of Technology, Nagpur, India   November 2022 – June 2026
B.Tech in Electronics and Communication Engineering

Experience

Summer Intern| IvLabs ,VNIT | GitHub   May 2023 – Aug 2023
Nagpur ,India

- Development of algorithm for Indoor Navigation of TurtleBot with printable ArUco markers.
- Successfully simulated navigation of TurtleBot Burger in Gazebo Simulation Environment with urdf files.
- Deployed the algorithm on TurtleBot1 using ROS Melodic Docker Image for navigation in real time.

Projects

Searchable LM   GitHub

- Developed a chatbot with integrated llama-3 8B to chat and answer user queries with the ability to use DuckDuckGo Web Search for queries asking for latest data.
- Tools Used: Python, LangChain, Groq

Real Time Voice Assistant   GitHub

- Developed a User-friendly GUI INterface for a Voice Assistant to reply to the user queries using OpenAI Whisper for speech recognition.
- Tools Used: Groq, Huggingface Gradio.

Toxic Comment Classification   GitHub

- Developed and fine-tuned a globally accessible model to classify toxic comments from normal ones while obtaining accuracy over 93
- Tools Used: Huggingface Transformers, Pytorch

NLP-Implementations   GitHub

- Implemented the original Transformer model from Scratch as well as Retrieval Augmented Generation (RAG) from Scratch with local Google Gemini integration.
- Tools Used: Pytorch, Huggingface Transformers.

Technical Skills

Languages: Python, C, C++, JavaScript, DART

Softwares and Libraries: Langchain, Pytorch, Tensorflow Keras, Huggingface Transformers, NodeJS, ExpressJS, PyGame, git

Extra-Curricular Activities

Member at IvLabs, VNIT

Conducted Computer Vision and Pythorn workshops for more than 150 sophomores at Visvesvaraya National Institute of Technology, Nagpur.