

Naveen Kumar Pal

Software Engineer

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Profile

Energetic and inquisitive Software Engineer with a passion for problem solving and keen interest in innovation.

Proven team player with a collaborative mindset, dedicated to finding creative solutions to problems.

Excited to bring my curiosity and problem solving to a dynamic team, fostering innovation and contributing towards the mutual growth of the organisation.

Professional Experience

Costa Cloud

09/2022 - present

Software Engineer

Delhi

- Researched and defined the software architecture, relevant algorithms and techniques for developing clear and complete lifecycle of AI-software.
- Utilized models like yolov5, SSD for object detection, achieving significant improvements in accuracy and reliability for real-time obstacle detection and avoidance leading to better results in available resources.
- Learned and worked on Unreal Engine 4.27 to Develop and integrate algorithms such as Djikstra, A*, and RRT* within Unreal Engine simulations.
- These optimizations led to more efficient and reliable autonomous navigation solutions also leading to cost effective developement and testing of software.

Education

Bachelor of Technology

2018 - 08/2022

United College of Engineering and Research

Senior Secondary

2016 - 2017

Kendriya Vidyalaya

Projects

Personal Knowledge Assistant - LLM-powered RAG Chatbot

- Developed a Retrieval-Augmented Generation (RAG) chatbot using Python, demonstrating proficiency in advanced NLP techniques and AI application development.
- Implemented document processing pipeline with PyMuPDF and NLTK for text extraction and preprocessing from PDF files.
- Utilized BERT embeddings and integrated ChromaDB for efficient vector storage and similarity search capabilities.
- Leveraged GPT4All, a locally hosted LLM, for generating context-aware responses, showcasing skills in working with state-of-the-art language models.
- Created a user-friendly web interface using Streamlit, to develop end-to-end AI solutions from backend processing to frontend deployment.

MiniBot(A very basic chatbot utilising neural networks)

- The chatbot is designed to perform **intent classification** using a **neural network**. It processes user input (text), classifies it into specific categories (intents), and returns an appropriate response. The model is built using **TensorFlow** and **Keras**, with **natural language processing (NLP)** techniques powered by **NLTK**.

Heart Disease Prediction utilising Machine Learning

- Utilized Django to deploy a machine learning model on a website.
- Performed EDA on heart disease dataset.
- Used Logistic Regression for prediction of heart disease on certain parameters.

Skills

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| Python | C++ |
| Machine Learning | Deep Learning Pytorch,Computer Vision |
| Unreal Engine | Django |
| Linux | Git |
| Generative AI | |

Achievements and Extra Curriculars

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|-----------------------------------|---|
| National Level Handball Player | Took part and won Debates at college and school level |
| Member of College Volleyball Team | Managed and Hosted College Events as lead host. |