Deepak Chauhan

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Education

- **Lloyd Institute of Engineering and Technology** — Greater Noida , UP
  Computer Science And Engineering — *Oct. 2021 – Present*
- **Saint Hood Convent School** — Dadri , UP
  Physics , Chemistry And Maths — *Aug. 2017 – July. 2021*

Project

- **Trading Engine** — June 2024 - Present
  C++
  - **Data Structure Design:** : Implement a custom data structure using balanced trees or hash maps to maintain sorted price levels, ensuring efficient order insertions, deletions, and updates. Prioritize memory layout and cache locality to minimize latency, with a focus on achieving microsecond-level response times.
  - **Concurrency and Thread-Safety:** : Utilize lock-free programming techniques, such as atomic operations and memory barriers, to ensure thread-safe access and modification of the order book. Design the system to handle high-frequency trading with multiple threads, ensuring that all operations, including order matching, adhere to price-time priority.
- **Large Language Model Scratch** — June 2024 - Present
  Python
  - **Core Architecture Implementation**: Develop the foundational components of a large language model, including tokenization, embeddings, and attention mechanisms using Python and PyTorch/TensorFlow. Implement the transformer architecture to enable the model to process and generate text.
  - **Model Training and Evaluation**: Train the model on a text corpus, fine-tuning it to perform basic natural language processing tasks such as text completion, translation, and summarization. Evaluate performance and iteratively refine the model for improved accuracy and efficiency.
- **Skin Disease Classification** — Nov 2023 - Dec 2023
  Python
  - **Data preprocessing**: Collect a large dataset of labeled skin disease images, ensuring diverse representation of different conditions. Preprocess images by resizing, normalizing, and augmenting the data to improve model generalization.
  - **CNN architecture**: Design a CNN model with multiple convolutional layers for feature extraction, followed by pooling layers and fully connected layers for classification. Train the model on the preprocessed dataset, fine-tune hyperparameters, and evaluate performance using metrics like accuracy and F1-score.

Programming Skills

- **Languages**: C++ , Python , JavaScript
- **DataBase**: MySQL, MongoDB
- **FrameWork/Libaries**: TensorFlow, Keras, React
- **Tools**: Git, Visual Studio, Jupyter

Achievements

- **Code A Thon**: Winner in 24 Hours Code-A-Thon, organized in Lloyd Institute of Engineering and Technology
- **LeetCode**: 480+ Question Solved With Different Data Structure
- **DSA Training**: Completed 200 hours of in-depth training on Data Structures and Algorithms (DSA), mastering problem-solving techniques that resulted in a 30 percentage increase in coding efficiency during competitive programming challenges.

Certification

- **J.P. Morgan Software Engineering**: Implemented a comprehensive solution using J.P. Morgan's open-source library, generating a visually appealing live graph for traders; improved data interpretation efficiency by 25, aiding in quicker, data-driven trading decisions.
- **Goldman Sachs Software Engineering Virtual Experience**: Wrote a memo for my supervisor summarizing a range of proposed uplifts to increase the company's level of password protection including extending minimum password length and using a dedicated hashing algorithm.
- **CISCO Networking Academy**: Completed the Networking Essentials course through CISCO Networking Academy, acquiring expertise in configuring, managing, and troubleshooting networks; facilitated the successful implementation of 5 network projects within a 3-month timeframe for a local business.

Personal Details

- **D.O.B**: 7th Apr 2004
- **Address**: Nyadar Ganj , Dadri , Gautam Buddha Nagar , Uttar Pradesh - 203207
- **Language**: English , Hindi