Rangam Likhith Lochan

Software engineer

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GitHub Profile
LinkedIn Profile
Portfolio Website

Summary

Software Developer with 3+ years of experience building scalable software systems, now looking to transition into AI and Machine Learning. Actively expanding expertise in deep learning frameworks and large language models, including Hugging Face Transformers and GPT-based models. Eager to apply strong software engineering foundations to develop intelligent, data-driven solutions.

Experience

•Svaya Robotics *Sep 2023 - present*

Software developer

- Fine-tuned a YOLO model on custom data by unfreezing the top three layers to improve task-specific detection performance.
- Developed a multithreaded WebSocket server using Boost.Beast to handle multiple clients asynchronously, ensuring thread-safe communication with mutex synchronization. Integrated the server with the ROS2 network for real-time pub/sub messaging.
- Implemented a custom ROS–JSON bridge using the Adapter pattern to convert ROS2 messages to JSON, enabling frontend clients to create topics and perform pub/sub via WebSocket.
- Implemented a Python-based robotic control system utilizing multithreading to handle real-time communication between user commands and server messages via WebSocket, integrating Tkinter message boxes for responsive error, info, and warning notifications.

•Wipro *Apr 2022 - Aug 2023*

Software developer

- Designed, developed, and maintained Java-based microservices using Spring Boot and SQL, ensuring reliable and scalable backend functionality.
- Built high-performance RESTful APIs, leveraging Redis to cache frequent queries and reduce backend load—resulting in a 30% boost in response speed and smoother client interactions.
- Containerized Spring Boot microservices using ***Docker***, creating lightweight, reproducible development and production environments; designed custom Dockerfiles and optimized image layers to reduce build time and improve deployment efficiency.
- Used tools like Postman, and JUnit for API testing , improving debugging speed and code quality.

Technical Skills and Interests

Languages: C++ ,Python , Java
Frameworks & Libraries : Springboot,ROS2 , ReactJs
Databases & Caching: SQL , Redis
Machine Learning & Deep Learning Libraries : NumPy, Pandas, Scikit-learn, TensorFlow , PyTorch
Large Language Models AI Platforms GPT-3/4, LLaMA, BERT, Hugging Face Transformers, Hugging Face Datasets, OpenAI API
Web Dev Tools & Platforms: VScode, Git, Github , Docker
Certifications : AWS cloud practitioner

Projects

Bigram Transformer-based language model *model link*

Github link

- Developed a Bigram Transformer-based language model from scratch using PyTorch, implementing multi-head self-attention, feed-forward layers, and positional embeddings
- Built custom tokenizer and encoding/decoding pipelines, enabling efficient text generation with a block-wise attention mechanism.
- Implemented a text generation interface using Gradio, allowing interactive prompt-based generation with adjustable token limits.
- Gained hands-on experience with transformer architecture, language modeling, and sequence generation, reinforcing understanding of modern NLP techniques.

Text sentiment analysis *model link*

- Fine-tuned a DistilBERT transformer model on the TweetEval Sentiment dataset, achieving strong performance using optimized training strategies (AdamW, weight decay, gradient-based evaluation).
- Built an end-to-end NLP pipeline including tokenization, dataset preprocessing, metric computation (accuracy, precision, recall, F1), and model evaluation.
- Implemented evaluation strategy with early model selection using load_best_model_at_end=True and tracked metrics to choose the best checkpoint.
- Compared the fine-tuned model against zero-shot classification (BART-MNLI) and quantified performance improvements using weighted metrics.

Education

–**Bachelor of Technology in Mechanical Engineering** *2018-22*
Jawaharlal Nehru Technological University, Hyderabad CGPA: 8.01