# Sujith Reddy Bommareddy

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## Education

**Blekinge Institute of Technology**                         Jan 2024 – Jan 2026
*Masters in Computer Science*                                   *Karlskrona, Sweden*

**Jawaharlal Nehru Technological University Hyderabad**     Aug 2020 – Nov 2023
*Bachelors Degree in Computer Science*                          *Hyderabad, India*

## Projects

**AI Interview Simulator**
(Python, LangChain, RAG, GPT4All)

– Built an AI-driven interview simulator using Python and LangChain to generate multi-round behavioral, technical, and coding questions for roles like Python Developer, Data Scientist, and ML Engineer

– Designed an end-to-end LangChain workflow with Few-Shot and Chain-of-Thought prompts, sequential chains, structured output parsing, and a custom memory module to track performance and deliver contextual hints and targeted improvements.

– Added a RAG component with ChromaDB, HuggingFace embeddings, and a local GPT4All model to provide semantic tips, best-practice guidance, and real-time scoring (0–100), with future plans for a web UI, voice interviews, and expanded role-specific templates.

**SmartSupport AI – Customer Service Chatbot**
(Python, GPT4All)

– Built SmartSupport AI, an e-commerce customer service chatbot powered by Python and a local GPT4All LLM, handling 10 core support scenarios and achieving a 93/100 quality score.

– Created a rule-based evaluation system with 6 objective criteria and automated JSON reporting, boosting chatbot quality from 2.6 to 9.3 through iterative prompt engineering and testing.

– Defined a future roadmap with multi-turn conversations, a web chat UI, sentiment analysis, live chat integration, and multi-language features to move the prototype toward production readiness.

**Multi-Object Tracking Framework Development**
(YOLOv8, ByteTrack, OpenCV)

– Developed a traffic monitoring system using YOLOv8 and ByteTrack to detect, track, and count heavy vehicles across 53,485 frames for traffic flow analysis.

– Achieved 95% detection accuracy using YOLOv8x with Re-ID logic maintaining stable IDs through occlusions, with ByteTrack achieving sub-30ms tracking association time.

– System extensible to multi-camera setups with 90% counting accuracy using LineZone, enabling future integration of speed estimation and trajectory prediction analytics.

**Microservices-Based Book Review Application**
(Kubernetes, Docker, MongoDB, REST APIs)

– Architected a book review platform with 3 microservices (User, Review, Book) deployed on Kubernetes, Docker Hub, REST APIs, and persistent MongoDB storage.

– Achieved 99% uptime with horizontal pod autoscaling, health probes, and load balancing across replicas with sub-second API response times and independent scaling.

– Extensible to recommendation engines, GraphQL gateway, event-driven architecture with Kafka/RabbitMQ, distributed tracing, and multi-cloud deployment strategies.

## Technical Skills

**Programming:** Python, C, C++, SQL
**ML/DL:** TensorFlow, Keras, PyTorch, scikit-learn, OpenCV, YOLOv8
**Cloud & DevOps:** Kubernetes, Docker, REST APIs, MongoDB, Git/GitHub
**AI/ML Technologies:** LangChain, GPT4All, Prompt Engineering, RAG (Retrieval-Augmented Generation),Few-Shot Learning, ChromaDB, Vector Embeddings
**Domains:** Computer Vision, NLP, CNNs, Object Detection/Tracking, AI Evaluation