Rishit Chugh

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EDUCATION

VIT Bhopal   **2021-2025**
BTech Computer Science (specialization in Artificial Intelligence and Machine Learning)
- Operations Manager at Omdena AI and Lead at AI Club, 9.05/10 GPA
- Hosted 3 workshops during tenure with AI Club and Omdena on NLP, Machine Learning and GenAI.

Rukmini Devi Public School   **2007-2021**
Non-Medical Sciences with Computer Science
- 12th Board Examination Percentage: 96.2
- 10th Board Examination Percentage: 93.6

WORK EXPERIENCE

DMI Finance Pvt Ltd   **July 2024 – October 2024**
LLM Intern

Technologies Used: AWS, VLLM, Transformers, PyTorch, Tensorflow, PEFT, QLORAs

- Assisted in development of LLM Guardrailing and Safety Product for Businesses needing to test their AI systems.
- Developed LLM guardrailing models for toxicity, jailbreak detection, and PII masking, achieving 30% better results than Meta's Llama Guard models through efficient fine-tuning.
- Implemented VLLM support to reduce inference times by 5x with parallel inference on multiple GPUs.
- Improved workflow efficiency by developing an orchestrator that seamlessly integrates prompt conversion, data augmentation, response generation, and scoring.
- Integrated SOTA adversarial attack methods with VLLM, achieving a 60% success rate in testing LLM robustness against malicious prompts.
- Developed RAG and fact hallucination testing algorithms from scratch, achieving 80% success in hosted LLMs like ChatGPT and Gemini.
- Created production-ready test cases for stress-testing and load-handling.
- Deployed solutions on AWS EC2 and docker images for demonstration and availability.

Lilac Mosaic   **Jan 2024 – March 2024**
AI/ML Intern

Technologies Used: OpenCV, OpenAI, NLTK, Firebase, FastAPI, Google Cloud, Gemini

- Developed FAQ and RAG chatbot using Transformers and Dialogflow, achieving a 90% reduction in support inquiries . Deployed the backend on Google Cloud Platform for flexibility.
- Implemented image similarity and recommendation systems using OpenCV and color histograms.
- Deployed the solutions on Firebase for scalability and real-time performance.
- Developed and deployed automation scripts for checkout, email, and reviews using cron and Sendgrid API as firebase cloud functions to enhance customer experience and support retention
- Developed an AI assisted personalized system that offers discounts based on a survey taken at check-in time.

PROJECTS

OKULARY: Educational platform using NLP, Computer Vision (OpenCV), Transformers, and data visualization tools to automate attendance, assignment grading, and plagiarism detection, enhancing teacher efficiency.

CVAR: Developed a football analysis system using YOLO, OpenCV, numpy, and SuperVision for player, referee, and ball tracking, along with features like ball possession, player speed estimation, and camera movement tracking for detailed game insights.

Omdena AI VITB Chapter (Open Source): Collaborated and led 3 practical AIML projects and helped in model optimisation and visualizations. Used OpenCV, GEE, Pytorch and Tensorflow to achieve high accuracy.

SKILLS

Languages and Software: Python, R, HTML, CSS, Tableau, Figma, Docker, Firebase, AWS, Git

Frameworks and Libraries: Pytorch, NLTK, Tensorflow, Spacy, Pandas, PIL, OpenCV, Matplotlib, Seaborn, SK-Learn, Langchain, Transformers