HARSH GUPTA

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SUMMARY

I am a Computer Science & Engineering student at VIT Bhopal University, specializing in AI and ML with a strong academic record. Skilled in Python, machine learning frameworks, and data tools, I hold certifications in cloud-based ML and generative AI. As a tech lead in a university club, I manage web development projects, and my AI projects focus on optimizing models and automating data workflows. I've earned recognition in hackathons and innovation challenges for impactful solutions.

EDUCATION

- **Vellore Institute of Technology, Bhopal** — Sep 2023 - Present
  Bachelor of Technology in Computer Science (Artificial Intelligence & Machine Learning)
  Current CGPA: 9.08/10.0 (Top 5% of cohort)
- Senior School Certificate Examination, CBSE, 2022 — 85% — 2009 - 2022
- Secondary School Examination, CBSE, 2020 — 80%

PROJECTS

VAIDYASETU

- Built VaidyaSetu – AI healthcare prototype with telemedicine (WebRTC), OCR–LLM, AI diagnostics, improving accessibility +35% (20 users).
- Engineered OCR–LLM + Google Calendar API for report extraction & auto-scheduling, cutting effort ~60%.
- Trained CNN (10K+ images, 96% acc.) and integrated NLP chatbot, boosting report comprehension +40%.

LLAMA-3 QLORA FINE-TUNING FOR HEART DISEASE RECOMMENDATIONS

- Fine-tuned LLaMA-3 8B with QLoRA + LoRA, reducing GPU memory 50% while maintaining accuracy.
- Automated preprocessing & publishing of 2K+ JSON → Hugging Face datasets, cutting manual effort 70%.
- Optimized training (transformers, TRL, accelerate, bitsandbytes) with grad checkpointing + AdamW-8bit, improving efficiency 30% and reproducibility.

ADVANCED BRAIN CANCER DETECTION USING CNN ARCHITECTURES

- Implemented ensemble CNN models using VGG16, MobileNet, and ResNet50 achieving 99.8% classification accuracy on BraTS2020 medical dataset
- Preprocessed 1,000+ MRI images using OpenCV libraries and deployed intuitive clinical interface with Flask containerization technology
- Authored 7-page reviewed research paper documenting comprehensive methodology under faculty supervision

ACHIEVEMENTS

- Winner of VIT Mother's Day Challenge, designing an innovative solution that strengthened engagement and awareness among 100+ participants.
- Led team to 3rd place in Hack4Health Hackathon at VIT

SKILLS AND CERTIFICATIONS

Technical Skills:

Python3, Data Analysis, Machine Learning, Deep Learning, Data Structures, Natural Language Processing (NLP), Computer Vision, Neural Networks, Statistics

Tools:

Jupyter Notebook, VS Code, Git & GitHub, Pandas, Matplotlib, Tesseract (OCR), Scikit-learn, TensorFlow, NumPy, PyTorch, Keras, Hugging Face Transformers, Streamlit, Docker, n8n (for workflow automation in ML pipelines), SQL

Experience:

UX Club, VIT Bhopal
Operations Manager, Tech Dept.

- Leading the development of the club's website to serve a community of 1,000+ members.
- Participated in weekly R&D discussions and contributed to architectural decisions.

Certifications:

- AWS Certified Machine Learning Engineer - Associate – July'25 (link)
- GEN AI using IBM Watsonx by IBM Developer Skill Network – June'25 (link)