Bhavuk Agrawal

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Education

- **Bennett University, Greater Noida, Uttar Pradesh, India – 201310**
  Bachelor of Technology (B.Tech) in Computer Science | CGPA: 9.0/10 | Expected Graduation: 2027
- **Amarnath Vidya Ashram Senior Secondary School, Mathura, Uttar Pradesh, India – 281004**
  Class XII (CBSE) | Percentage: 90% | Graduated: 2023

Work Experience

Machine Learning Intern
National University of Singapore (NUS) | **Singapore, Singapore (On-Site)** | **June 2024 – July 2024**

- Gained hands-on training in AI/ML, NLP, and cloud technologies under the guidance of NUS faculty and researchers.
- Implemented a **Medical Report Analysis Tool** using TF-IDF for efficient medical text processing as part of guided research.
- Learned and applied **AWS CloudFormation** to automate infrastructure setup for scalable deployments.
- Deployed machine learning models using **AWS SageMaker** and optimized workflows with AWS tools.
- Collaborated with peers and mentors to translate academic concepts into working prototypes.

Projects

AI-Powered Real-Time Video Conferencing (2025)-

- Built a platform with **real-time multilingual subtitles (Whisper)**, **auto-summarization (BART)**, and a **RAG chatbot (LLaMA + LangChain)** on **AWS + WebRTC**; optimized latency by ~40%.
- **GitHub Repo:** github.com/bhavuk1409/intellimeet_updated

Radiology Report Analysis with Integrated Chatbot (2025)-

- Automated **radiology report parsing** and integrated a **LLaMA + LangChain chatbot** for clinician Q&A; deployed on **Streamlit** for secure real-time use.
- **GitHub Repo:** github.com/bhavuk1409/my-ai-radiologist
- **Live Demo:** radimate.streamlit.app

Speech-to-ASL (American Sign Language) Translator (2024)-

- Converted **Gujarati speech into ASL video** using **Azure Speech/Translate, Stanza NLP, MoviePy** with a **Gradio UI** for real-time translation.
- **GitHub Repo:** github.com/bhavuk1409/Speech_to_ASL

Football Game Analysis (2024)-

- Developed a **YOLOv8-based CV system** to track players/ball, compute **speeds, possession, coverage maps**, and deliver near real-time analytics.
- **GitHub Repo:** github.com/bhavuk1409/Object-Detection-Using-Yolo

AI PPT Generator (2025)-

- Built an AI-powered presentation generator (similar to Gamma) with automated outline → content → slide workflows using **LangChain** and **LangGraph**.
- Designed a **state-machine workflow** for multi-step generation: topic intake → outline creation → content drafting → PPT export.
- Used **LLMs (Groq + OpenAI)** for outline/content generation and **RAG (LangChain)** for domain-specific slide enrichment.
- Integrated **python-pptx** for automated slide creation with **custom templates, charts, and themes**.
- Added **AI-generated images** with **Gemini / Stable Diffusion API** for visually rich slides.
- Built **FastAPI backend** for orchestration and a **React frontend** for interactive user experience.

Technical Skills

- **Programming Languages:** C++, Python, Java, JavaScript.
- **Machine Learning & AI:** Deep learning, Computer Vision, LLMs, Generative AI, LangChain, Langraph, Langsmith, MCPs, Vector DBs, RAG, TensorFlow, PyTorch, NLP, Transformers, Hugging Face.
- **Web Development & Backend:** FastAPI, MongoDB, AWS, SQL, React, RESTful, API Development, Docker, Version control (Git).
- **Problem Solving Skills:** Data Structures & Algorithms, Competitive Programming.

Academic and Extracurricular Achievements

- Maintained **CGPA: 9.1/10** in B.Tech (CSE), Bennett University.
- Selected for **on-site academic internship at NUS (Singapore)**, working on AI/ML and cloud-based deployments.
- **Certifications**:
  - **Improving Deep Neural Networks: Hyperparameter Tuning, Regularization & Optimization – DeepLearning.AI**
  - **Data Structures – UC San Diego**

- Participated in multiple hackathons and coding competitions, building AI-driven solutions under time constraints.
- Regularly practice Data Structures and Algorithms (DSA) and competitive programming on platforms such as LeetCode, having solved over 350 problems.