

KRISHNA TYAGI

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[Leetcode](#) | [Github](#) | [LinkedIn](#) | [Portfolio](#)

EDUCATION

Bhagwan Parshuram Institute of Technology

Sept 2023 - May 2027

B.Tech in Information Technology | New Delhi, India | GPA: **9.00/10.0**

Cambridge School Indirapuram

12th | C.B.S.E. | PCM | Percentage: 90%

2022-2023

EXPERIENCE

Machine Learning Intern — Defence Research and Development Organisation

June 2025 – July 2025

- Built a simulation system for the Weapon Target Allocation Problem (WTAP), modeling 7 combat scenarios and enabling 20+ customizable weapon-target configurations per run.
- Designed a scoring-based heuristic algorithm achieving over **85% average target neutralization rate** across simulated missions.
- Developed the backend using Python (Flask) and frontend in HTML/CSS to support real-time configuration, scenario selection, and result visualization.

PROJECTS

Fire & Smoke Detection System | [Link](#)

- Built a real-time fire and smoke detection system using **YOLOv8** and **OpenCV** for video stream analysis.
- Designed a secure **Flask-based web interface** with role-based login and password reset features.
- Integrated **email alerts** on fire/smoke detection and logged events using **SQLite** for analytics.
- Followed **modular design patterns** to ensure code scalability and maintainability.
- Technologies - YOLOv8, OpenCV, Flask, Ultralytics

Resume-based RAG Chatbot | [Link](#)

- Developed a Retrieval-Augmented Generation (RAG) chatbot that answers questions using personal resume data as context.
- Integrated **FAISS vector database** for efficient document retrieval and **Gemini 1.5 Pro** as the LLM for generating human-like responses.
- Built using **LangChain** for chaining retrieval and generation steps into a seamless pipeline.
- Technologies - LangChain, FAISS, Hugging Face, Gemini API, Streamlit.

CERTIFICATIONS

AI Agents Fundamentals by HuggingFace | [Link](#)

- Gained foundational knowledge of AI agents, their development, and their real-world applications.
- Technologies - HuggingFace | Smolagents

Introducing Generative AI using AWS by Udemy | [Link](#)

- This course delves into generative AI, focusing on its fundamentals, historical context, and real-world applications.
- Technologies - AWS EC2 Sagemaker | AWS S3 Bucket | GPU

SKILLS

Programming Languages: Python, C++, C

Machine Learning & AI: PyTorch, TensorFlow, Keras, Scikit-learn, Quantization, Hugging Face, PEFT, LangChain

Computer Vision: OpenCV, YOLOv8, Ultralytics

Libraries & Data Processing: NumPy, Pandas, Matplotlib, spaCy, NLTK

Cloud & Deployment: AWS S3, AWS SageMaker, Streamlit, Flask, FastAPI, Gemini API

Development Tools: Git, VSCode, Jupyter Notebook, Google Colab, CI/CD

Databases & Vector Stores: MySQL, FAISS, ChromaDB

ACHIEVEMENTS

- **Solved 400+ DSA problems** on [Leetcode](#) & [CodingNinjas](#).
- Recipient of **Reliance Foundation Undergraduate Scholarship**, awarded to top **5,000** students nationwide.