VARDAN GARG

CONTACT DETAILS

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- 🌐 Portfolio WebApp

SKILLS AND TOOLS

- **Programming Languages**: C, C++, Python, Java, HTML, CSS
- **Frameworks**: Keras, PyTorch, TensorFlow, FastAPI, OpenAI Gym, LangChain, LangGraph, Flask, Node.js, React.js
- **Libraries**: Scikit-learn, NumPy, Pandas, OpenCV, NLTK, SpaCy, SciPy, Pillow, BeautifulSoup, SQLAlchemy, Transformers (Hugging Face), Matplotlib, Seaborn, Requests, Pygame
- **Databases**: MySQL, MongoDB, SQLite, ChromaDB, Cassandra, PostgreSQL, Neo4j, Redis
- **Development Tools**: GitHub, Git, VS Code, Anaconda, Vite
- **General Tools**: MS Office Suite, Google Workspace, TechSmith Camtasia, OBS Studio, Linux
- **Soft Skills**: Public Speaking, Influential Communication, Leadership, Cross-functional Team Collaboration & People Management

CERTIFICATIONS

- **Specialization on Machine Learning and Deep Learning guided by Mr. Andrew Ng on Coursera (deeplearning.ai)**
- **NPTEL Course on Design and Analysis of Algorithms from IIT Madras (8 Weeks|Scored 96%)**
- **Guided Project from Coursera on Support Vector Machines with scikit-learn and Traffic Sign Classification Using Deep Learning in Python & Keras**
- **MathWorks - MATLAB Onramp**

HOBBIES

- **Enigmatic Plots in the Cinema**
- **Crafting meals with passion**

EDUCATION

Year	Degree / Board	Institute	CGPA/%
2024-26	M.Tech in IT (Machine Learning and Intelligent Systems)	Indian Institute of Information Technology, Allahabad	8.91
2018-22	B.Tech in (Computer Science and Engineering)	University Institute of Technology, RGPV, Bhopal	8.44
2017-18	Intermediate - 12th Board (CBSE)	Gyan Ganga International Academy, Bhopal	87.8%
2015-16	Matriculation - 10th Board (CBSE)	Ryan International School, Bhopal	10

SCHOLASTIC ACHIEVEMENTS

★ Secured **AIR 66 (GE)** in **NIC Recruitment** (Advt. **NIELIT/NIC/2023/1**) for **Scientific Officer** Appointed as **District Informatics Officer (DIO)** at **Rajgarh Collectorate of M.P. [2025]**
★ Ranked in **Top 3.8% nationwide** in **GATE (CS/IP)** with a normalized **Score of 519 [2024]**
★ Attained **100% MMVY scholarship** based on **class 12th Merit** for **BTech** in CSE **[2018-22]**
★ Achieved **Zonal Rank 28** in the **International Cyber Olympiad** organized by **SOF [2015]**
★ Secured **Zonal Rank 64** in the **International Maths Olympiad** organized by **SOF [2015]**

EXPERIENCE

Magnet Brains, Bhopal | AI/CS Faculty | EdTech Educator **[Jul, 2021 – Feb, 2023]**
★ Grew **YouTube channel** to **8.52M+ subs** & **100M views** utilizing targeted **EdTech** content
★ Educated **100K+ students** in **AI (Grade 9–10), CS (Grade 11–12) & CUET** via coursework
★ Engaged **500+ students** concurrently, resolving doubts with **32K views** in **real-time**
★ Drove **45% engagement boost** & **30% subscriber growth** via analytics-driven strategies

Persistent Systems, Nagpur | Software Trainee Intern   **[Feb, 2022 – Aug, 2022]**
★ Worked within the **Agile** framework and collaborating within cross functional teams
★ Planned & executed project goals via sprints & stand-ups, ensuring timely delivery
★ Honed **effective communication**, **cross-functional collaboration**, **strategic thinking**, **feedback receptiveness**, **learning agility**, & **active listening** in this 6-month internship

PROJECTS

Full Stack RAG based Note Mgmt & Query WebApp *(Collaborative)* **[2025]**
Tech Stack – *React, FastAPI, JWT, SQLite, ChromaDB, Gemini API, Speech-to-Text*
★ Engineered a note-management backend with **JWT authentication** using algorithm **HS256 (HMAC SHA-256)** for token signing & verification, adaptive **CRUD functionality**
★ Integrated advanced **semantic search** using **all-MiniLM-L6-v2 embeddings** & a **vector database** to retrieve notes with **> 60% cosine similarity** from extensive user collections
★ Implemented smart **AI summarization** via the **Gemini Flash-2.5 model** integrating features - **intelligent note retrieval**, **automated content summarization** & **PDF exports**

Real-Time Hand Gesture VLC Media Controller using DL *(Personal)* **[2025]**
Tech Stack- *PyTorch, scikit-learn, MediaPipe, OpenCV, VLC HTTP API, pyautogui, psutil*
★ Developed a gesture-controlled VLC player by utilizing **21×3 hand landmarks** processed through an **MLP (2×128, ReLU, Adam)** integrated with **VLC HTTP or keyboard APIs**
★ Built a **6K-sample, 5-class gesture dataset** with augmentation (rotation, scaling, Gaussian noise), achieving **99.1% accuracy, precision, recall & F1 score** with a **4:1 split**
★ Implemented **real-time gesture recognition engine** with webcam input, **state-based gesture-to-command mapping** & VLC supervisor ensuring smooth, **low-latency control**

Optimized Multi-UAV Search and Localization *(Research)* **[2025]**
Supervision- *Dr. Munnendra Ojha, AIMS Lab, Department of IT, IIIT Allahabad*
Tech Stack- *Python, OpenAI Gym, OpenCV, Qiskit, stable_baselines3, numpy, pandas*
★ Developed **hybrid Genetic Algorithm & Quantum RL system** for **UAV victim detection**
★ GA waypoints cut **70% RL exploration**; managed wind/obstacles/battery via **PPO/DQN**
★ **Quantum Reinforcement Learning** outperformed classic RL by **3.5× faster convergence**
★ Attained **95% coverage** which is **30% faster than A*/BCD/ACO** in **64x64 simulation**