Smarth Singh

LinkedIn smarthmehar@gmail.com Smarthsingh +91 9996910306

About Me

Aspiring Developer with a solid foundation in coding, AI, and embedded systems. I enjoy solving practical problems with emerging technologies and working collaboratively. I believe in continuous learning and thoughtful contribution to impactful software solutions.

Education

Degree	Institute	CGPA/Percentage	Year
Bachelor of Engineering	Thapar Institute of Engineering and Technology, Patiala	8.93 (Till Date)	2022-2026
Intermediate	Vishva Bharti Public School Jagadhri (CBSE)	88 %	2022
High school	St. Thomas School Jagadhri (ICSE)	80.6 %	2020

Experience

- **Machine Learning Intern** *June 2025 - July 2025*
  Netmax Technologies Chandigarh, India
  – Engineered an AI chatbot using LangChain and Hugging Face Transformers to answer 100+ daily queries from websites, YouTube, and PDFs, Deployed with Streamlit and RESTful APIs.
  – Collaborated in a 4-member team, contributing to code reviews and prototypes that improved delivery speed and usability by 30%.

Projects

- **RAG-based AI Chatbot :**
  Streamlit, Hugging Face, LangChain, Python, NLP
  – Designed a Retrieval-Augmented Generation chatbot that dynamically extracts and processes data from multiple sources, supporting multilingual Q&A.
  – Integrated modular content handling (PDF parsing, YouTube transcripts, web scraping) with dynamic chunking, retrieval, and NLP pipelines.
- **Movie Recommendation System:**
  Python TF-IDF, Cosine Similarity, Collaborative Filtering
  – Built a hybrid movie recommender combining collaborative and content-based filtering for a dataset of 5,000+ movies.
  – Implemented TF-IDF vectorization and cosine similarity to deliver recommendations with an estimated 85% relevance match.
- **Sen-Secure:**
  ESP32, IoT, Embedded Systems
  – Created an ESP32-based smart security system with intruder alerts, gas leak detection, auto-locking, and MQTT/HTTP instant notifications.
  – Achieved real-time response under 2 seconds and remote monitoring via web dashboards for improved household safety.
- **Bounce Battles:**
  Python, OpenCV, cvzone
  – Developed an interactive Pong-style game using Python and OpenCV, enabling real-time gesture control with 95% tracking accuracy, played by 50+ users during testing.
  – Implemented real-time gesture recognition and collision detection, enhancing game responsiveness and user interaction.

Technical Skills

- **Programming Languages**: C/C++, Python, SQL, HTML, CSS
- **Frameworks & Libraries**: TensorFlow, PyTorch, OpenCV, Scikit-learn, Langchain, Hugging Face Transformers
- **Electronics & Circuit Design**: PCB Design & Fabrication, Analog and Digital Circuit Design
- **Embedded Systems & IoT**: ESP32, Arduino, NVIDIA Jetson Nano, TensorRT, Jetson Inference, Triton Inference Server

Certifications

- **Minor In CSE (Thapar Institute of Engineering and Technology,Patiala)** *Link*
- **Getting Started with Accelerated Computing in CUDA C++ (Nvidia)** *Link*
- **Fundamentals of Accelerated Computing with CUDA Python (Nvidia)** *Link*
- **Scaling Workloads Across Multiple GPUs with CUDA C++ (Nvidia)** *Link*

Positions of Responsibility

- **Discipline Head**, Hostel O (Vyom Hall) TIET *August 2024 - June 2025*
- **Mentor**, IETE Students' Forum, TIET *Jan 2023 - June 2025*
- **Discipline Head**, Hostel B (Amritam Hall) TIET *Jan 2023 - June 2023*