Suryansh Sharma

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SUMMARY

Results-driven **Artificial Intelligence and Robotics** enthusiast with a strong foundation in **Computer Vision, NLP and Generative AI (LLMs), Embedded C++ (IOT)** . Proficient in Python/C++ for solutions using TensorFlow, PyTorch, OpenCV, NLTK and Scikit-learn.

SKILLS

- **Programming Languages:** Python, C++, SQL, HTML, Assembly Language, Bash, Embedded C
- **Frameworks:** Scikit-learn, PyTorch, OpenCV, DeepFace, TensorFlow, NLTK (NLP), Vosk, Ollama, LangChain
- **Data Analysis Tools:** Pandas, Numpy, Matplotlib, Excel, Streamlit
- **IoT & Robotics:** Raspberry Pi, ESP Boards, 8-bit Microcontrollers, Arduino, MicroPython, ROS2, Webots, LiDAR
- **Developer Tools:** QT6 C++, Visual Studio Community, Linux, CMD, Turbo C++, Nano, VS Code, Arduino IDE
- **Soft Skills:** Leadership & Initiative, Problem-Solving, Communication & Mentorship

EXPERIENCE

AI & IoT Engineer Intern

Paramount Chess (NS Craft India), Ludhiana
On-site Paid Internship | Nov 2025 – Dec 2025

- Developed a **Smart Automated Chess Board** capable of **physically moving chess pieces** based on real-time computer-generated moves using embedded control systems.
- Designed and implemented **game state tracking** to **record complete two-player matches**, enabling move history storage and replay functionality.
- Integrated **LiChess connectivity**, allowing synchronization of local board gameplay with online chess platforms.
- Built a **simple, elegant, and interactive user interface (UI)** for main menu navigation, game modes, and system controls.
- Engineered **AI-driven move logic integration** to interpret computer moves and convert them into precise hardware actions.
- **Worked on sensor-based piece detection and board state validation to ensure accurate gameplay tracking.**

Technologies: Python, Embedded Systems, IoT Controllers, Sensors, Motors/Actuators, Computer Logic, UI Design, API Integration

Computer Vision & AI Intern

Pantech EduTech
Remote Internship | July 2024 – October 2024

- Designed and implemented a **Face Recognition system using Convolutional Neural Networks (CNNs)**, achieving **88% accuracy** on real-world facial datasets.
- Developed a **real-time hand gesture recognition system** capable of identifying **5+ unique gestures**, enabling gesture-based control of system functions with **95% accuracy**.
- Fine-tuned a **text sentiment analysis model** on a custom-labeled dataset, resulting in a **15% performance improvement** over baseline models.
- Applied **Computer Vision and AI concepts** to build practical, industry-oriented solutions aligned with real-world use cases.

Technologies: Python, CNNs, OpenCV, TensorFlow/Keras, Deep Learning, Computer Vision, NLP

AI & Machine Learning Intern (NLP Focus)

TopperWorld
Remote Internship | May 2023 – July 2023

- Built an **Email Spam Detection system** using **Scikit-learn's Naive Bayes classifier**, achieving **81% accuracy** while successfully filtering **1,000+ test emails**.
- Designed and trained a **Named Entity Recognition (NER) model** that automatically extracted **4 key entities** (e.g., Name, Skills, Experience, Contact) from resumes with **85% accuracy**.
- Implemented **text preprocessing pipelines** including tokenization, stop-word removal, vectorization, and feature engineering for NLP tasks.
- Strengthened practical understanding of **AI/ML fundamentals**, supervised learning, and real-world NLP applications.

Technologies: Python, Scikit-learn, NLP, Naive Bayes, Text Processing, Machine Learning

PROJECTS

AI PDF Question Answering System (RAG + OCR Enabled)

Python | NLP | LLMs | Vector Search | OCR

- Designed and developed an **intelligent PDF Question Answering system** capable of answering **natural language queries directly from PDF documents**.
- Implemented a **Retrieval-Augmented Generation (RAG) pipeline**, combining document chunking, **semantic embeddings**, and **vector similarity search** for accurate context retrieval.
- Integrated **Optical Character Recognition (OCR)** to extract text from **scanned and image-based PDFs**, enabling support for non-searchable documents.
- Utilized **embedding models** to convert textual content into high-dimensional vectors, allowing efficient and relevant information retrieval.
- Built a **real-time question answering workflow** that retrieves top-matching document chunks and feeds them to a **local / API-based Large Language Model (LLM)** for answer generation.
- Optimized response quality by controlling **context window size, top-k retrieval, and token limits**, improving both speed and accuracy.
- Developed an interactive **user-friendly interface** allowing users to upload PDFs, ask questions, and receive concise, context-aware answers.
- Demonstrated strong understanding of **modern NLP architectures, vector databases, LLM integration, and AI system design**.

Robotic Car – AI Personal Assistant

AI | ML | Computer Vision | IoT | Embedded Systems

- Developed an **intelligent AI-powered personal assistant integrated into a robotic car**, combining **Artificial Intelligence, Machine Learning, Computer Vision, and IoT** technologies.
- Automated multiple real-world tasks including **home automation, house cleaning assistance, email and WhatsApp message responses, and event reminders**.
- Implemented **voice-based command processing and decision-making logic** to allow natural interaction between users and the robotic assistant.
- Integrated **sensor data and embedded controllers** to enable autonomous navigation and task execution.
- Enhanced overall **efficiency and productivity** by significantly reducing manual effort and time spent on repetitive daily activities.
- Gained hands-on experience in **AI-driven robotics, hardware–software integration, and real-time system control**.

EDUCATION

Bachelor of Technology in Artificial Intelligence and Machine Learning • 08/2022 – Present
ShriRam College of Engineering and Management, Gwalior

Senior Secondary (12th Grade) • 04/2021 – 05/2022
Kiddy's Corner Higher Secondary School, Gwalior • GPA: 68%

ACHIEVEMENTS

- **1st Winner in Typing Race** | ShriRam College of Engineering and Management (March 2024)
- **1st Winner in Coding Competition** | ShriRam College of Engineering and Management (April 2025)

LEADERSHIP EXPERIENCE

President | XDCode - Coding Club, ShriRam College of Engineering and Management | 04/2023 - Present

- Led the college coding club, growing membership by 84**%** over one academic year.
- Organized and conducted **5+** hands-on workshops on AI, IoT, and Robotics for over **200 students** in total.