Harsh Arora

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Skilled in IoT systems, web development, and embedded solutions. Experienced in building scalable apps, dynamic web portals, and blockchain smart contracts.

EDUCATION HISTORY

1. **Bachelor of Technology (Computer Science)** SRMIST, Kattankulathur (*2023-2027*)
   Relevant Coursework: Data Structures & Algorithms, Web Development, AI/ML, Mobile App Development, Cloud Computing
2. **The Coding School (Quantum Computing)** Virtual (Ma2*'20-Mar21*)
   Skills Gained: *Basics of Quantum computing, Logic Building, Foundations Of python, Teamwork*

TECHNICAL SKILLS

1	**Languages**	Python, C, C++, Java, JavaScript, Rust (Basic), Golang (Basic), HTML, CSS
2	**Machine Learning Suites**	TensorFlow, PyTorch
3	**Software Tools**	Unreal Engine, AutoCAD, Blender
4	**Operating System Experience**	Linux (Ubuntu/Mint, Arch/Manjaro)
5	**Languages**	English (Native), Japanese (Elementary), Hindi (Native)
6	**Frameworks**	Git, GitHub, TensorFlow, PyTorch, Unreal Engine, Blender, AutoCAD
7	**Technologies**	Web Development, IoT, Blockchain, Smart Contracts, AI/ML, Cloud Computing
8	**Soft Skills**	Leadership, Time Management, Public Speaking, Critical Thinking

PROJECTS

Internal meeting portal (core php) – ISKON (Jan'25-*Mar'25*)
- I worked as a freelancer to create the internal meeting portal for the upcoming Iskon temple in core php.

Smart classroom (IOT – using esp) – hackathon (Oct'24)
- Developed an AI-powered smart classroom lighting system using OpenCV and ESP8266 to detect human presence and control lights in defined zones.
- Designed a Persistent Coordinate System (PCS) for accurate zone mapping and minimized false positives to improve efficiency.
- Enhanced energy automation through real-time detection, IoT protocols, and embedded system optimization.

Smart health management (Python) – (Jan'25-*Mar'25*)
Built smart contracts on Ethereum/Polygon for secure, decentralized medical data access. Enabled patients to control their records using blockchain-based permissions. Integrated IPFS/Filecoin for encrypted storage and optimized gas fees with Layer 2 scaling. Used AES-256 encryption for privacy and connected Web3 wallets like MetaMask for secure access.

Stock portfolio analysis (Python) – (Jun'25)
Built a full-stack financial analytics platform using Next.js, React, and Google Gemini AI that provides real-time stock market data visualization and personalized investment recommendations for Indian markets. Integrated multiple APIs (Yahoo Finance, NewsAPI) for live price feeds and sentiment analysis, implemented position-based portfolio management with automated P&L calculations, and created interactive charts with Chart.js for real-time market tracking. Features JWT authentication, CSV-based data storage, and AI-powered buy/sell recommendations tailored to user's actual cost basis and holding positions.

EXPERIENCE

Intern – Thinking Beyond (Feb'24-Mar'25)
- Developed Python automation scripts to generate student intake forms, auto-filter submissions based on learning preferences, and track progress through backend logs, improving processing speed by 60%
- Designed and deployed dynamic e-learning platforms to enhance user experience, integrating custom UI features and feedback systems to increase learner retention and engagement.

Research Intern – RNTBCI (Renaut Nissan Technology and Business Centre India) (Feb'25-Apr'25)
- Contributed to real-time Applied Industrial AI projects such as predictive maintenance and anomaly detection in manufacturing systems.
- Designed AI modules for HMI and Android-linked machines using Python and OpenCV, enabling gesture-controlled interaction and remote machine monitoring.
- Built computer vision pipelines using TensorFlow and curated >10,000-frame datasets, achieving 92% defect classification accuracy.
- Worked closely with RNTBCI mentors in agile development cycles to align academic research with real-world industrial deployment.
- Successfully delivered functional AI prototypes under tight academic schedules, demonstrating strong adaptability and time management.

Intern – Reliance industries limited (Jun'25-July'25)
- Engineered a Retrieval-Augmented Generation (RAG) chatbot with modular multi-node architecture for enterprise analytics at scale.

- Built dynamic SQL query generation modules and multi-turn query interpretation pipelines, enabling natural

language access to structured SQL server data.
- Integrated context-preserving memory using vector databases to support analytical, multi-tag queries across conversational sessions.
- Improved user experience by structuring output into interactive, human-readable formats, enabling data-driven decisions across teams.

CERTIFICATIONS

- **Introduction To Artificial Intelligence (AI):** Mar 2024 - Apr 2024
  (IBM, Virtual)
- **Python:** Oct 2023 - Nov 2023
  (University of Pennsylvania, Virtual)
- **Google Cyber Security:** Nov 2023 – Jun 2024
  (Google, Virtual)