

# Ayush Kumar Singh

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## Career Objective

Aspiring CSE (AIML) student focused on developing scalable software architectures and high-performance Machine Learning models. Proficient in Full-Stack development and Neural Networks, aiming to leverage expertise in Python, C++, and NLP to build community-driven digital solutions. Committed to technical innovation and solving complex real-world challenges through data-driven engineering.

## Education

<b>Chandigarh University</b> , Mohali, Punjab	<i>Aug 2023 – Present</i>
B.E. in Computer Science and Engineering (AIML)	CGPA: 7.45 (Till 5th Sem)
<b>JP Sunrise School</b> (CBSE)	<i>Class XII: 84%</i>
<b>Metropolitan School</b> (ICSE)	<i>Class X: 84%</i>

## Skills

- Programming Languages:**  
Python, C++, C, JavaScript, HTML, CSS
- Core Concepts:**  
Object-Oriented Programming (OOPS), DBMS, Operating Systems, NLP, Data Structures
- Frameworks & Tools:**  
PyTorch, NumPy, OpenCV, Socket.IO, Firebase, Supabase
- Developer Tools:**  
VS Code, GitHub, Gemini API

## Projects

<b>Lost and Found Tracker Web App</b>	<i>Jan 2025 – Feb 2025</i>
<i>Tech: HTML, CSS, JS, Firebase, Supabase</i>	
<ul style="list-style-type: none"><li>Engineered a campus tracking application using real-time NoSQL databases for item recovery.</li><li>Optimized data synchronization with Supabase and secure user sessions via Firebase Auth.</li></ul>	
<b>AI Chatbot</b>	<i>Nov 2024 – Dec 2024</i>
<i>Tech: Python, Gemini API</i>	
<ul style="list-style-type: none"><li>Built a conversational agent with context-aware NLP for natural language interaction.</li><li>Developed Speech-to-Text integration to provide high accessibility and voice-driven queries.</li></ul>	
<b>Rehabilitation Model Application</b>	<i>Sept 2025 – Oct 2025</i>
<i>Tech: MediaPipe, PyTorch, OpenCV, Socket.IO</i>	
<ul style="list-style-type: none"><li>Developed a Computer Vision system using Pose Estimation to monitor recovery exercises.</li><li>Streamed real-time coordinate data through Socket.IO for immediate posture feedback.</li></ul>	
<b>Aero Canvas</b>	<i>Dec 2025 – Present</i>
<i>Tech: HTML, CSS, Javascript, MediaPipe, OpenCV, PyTorch, Socket.IO</i>	
<ul style="list-style-type: none"><li>Built AeroCanvas, an AI-based air drawing web app using MediaPipe and OpenCV for real-time hand gesture tracking.</li><li>Enabled touch-free drawing with color selection and eraser features using computer vision and web technologies.</li></ul>	

## Achievements & Certifications

- Research Publication:** *Smart Accident Detection System*, ICDAM 2025, London Metro Univ (UK).
- Patent:** *Solar-Powered Smart Irrigation Device*, India Design No. 452566-001 (Mar 2025).
- Top 5 Finalist:** Inter-Department Modeling Competition 2025, Chandigarh University.
- GitHub Foundations Certification:** Professional GitHub certification issued July 2025.