

SARABDEEP SINGH BILKHU

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Career Objective

I am a detail-oriented and innovation-driven Computer Science Engineering student with a strong foundation in backend development, machine learning, and robotics. Experienced in building full-stack applications and embedded systems using Python and modern web technologies. Passionate about solving real-world problems through scalable software solutions and AI automation. Seeking internship/full-time roles in backend engineering, AI/ML development, or embedded systems.

Projects

Gesture-Based Robotics with OpenCV & MediaPipe Nov, 2024 – Apr, 2025

Developer

- Developed gesture recognition algorithms using OpenCV.
- Integrated MediaPipe for real-time processing of user inputs.
- Enhanced user engagement through interactive robotics solutions.

AlgoTrace Jan, 2026

Web Developer – Link: sarabdeepsbilkhu.github.io/AlgoTrace

- Built a proxy-based execution engine to record and replay operations.
- Created animated visualizations for arrays, trees, and graphs.
- Integrated Monaco Editor for running JavaScript with multi-language references.

Educational Qualifications

April, 2024
Rajgomal, Jalandhar

Higher Secondary Certificate
S.T.S. World School

Expected in June, 2028
Gharuan, Mohali →
Phagwara, Punjab

Bachelor of Engineering – Computer Science
Completed Year 1 at Chandigarh University;
Continuing from Year 2 at Lovely Professional University (LPU)

Technical Skills

- Programming & Development:**
C, C++, Python | React, Node.js, SQL
- Databases & Backend:**
MySQL | Firebase | Supabase
- AI & Data:**
Machine Learning | Computer Vision | NumPy, Pandas
- Software Engineering:**
Data Structures | Object-Oriented Programming
- Tools & DevOps:**
Git | AWS

Publications

R. Gupta, S. S. Bilkhu, R. Khurana and A. Kumar, “**Enhancing Automated Interactions via Hybrid Gesture Recognition**,” 2025 International Conference on Intelligent and Secure Engineering Solutions (CISES), Greater Noida, India, pp. 1060–1065, 2025.
DOI: [10.1109/CISES669](https://doi.org/10.1109/CISES669)

Additional Information

- Languages: English (Fluent), Hindi (Fluent), Punjabi (Fluent), Japanese (Beginner).
- Achieved 4 kyu rank on Codewars for coding challenges.
- Secured Top 10 recognition at a Project Exhibition for innovation and technical skill.
- NCC alumni with demonstrated leadership, discipline, and teamwork.
- Showcased a Gesture Recognition project at CU CAB Meet 2025.