

# SARABDEEP SINGH BILKHU

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LinkedIn: [www.linkedin.com/sarabdeep-singh-bilkhu](https://www.linkedin.com/sarabdeep-singh-bilkhu) | Portfolio: [sarabdeepsbilku.github.io](https://sarabdeepsbilku.github.io)

## Career Objective

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 **Developer**  
As a Developer for the Gesture-Based Robotics project, my responsibilities include implementing computer vision algorithms that recognize user gestures and translate them into actionable commands for robotic systems. Utilizing OpenCV and MediaPipe enables the creation of intuitive interfaces that enhance user interaction with robotics. This project emphasizes innovation and practical applications of machine learning in robotics.
  - Developed gesture recognition algorithms using OpenCV.
  - Integrated MediaPipe for real-time processing of user inputs.
  - Enhanced user engagement through interactive robotics solutions.
- Personal Portfolio Website **Web Developer – Link: [sarabdeepsbilku.github.io](https://sarabdeepsbilku.github.io)**  
Created a personal website to showcase technical projects, academic achievements, and skills. Hosted on GitHub Pages, the site serves as a centralized space for recruiters and collaborators to view professional work.
  - Designed a clean, static web layout using HTML and CSS for optimal readability.
  - Deployed live project links and GitHub repositories to improve accessibility for recruiters.
  - Maintained and updated site content to reflect ongoing academic and technical growth.
- SKARK Banking System: Chat-Based Banking App **Backend Developer**  
The SKARK Banking System is a secure, chat-driven web banking application built with a Python Flask backend and MySQL database. The front-end was developed in collaboration with another team member using standard web technologies.
  - Engineered secure APIs to support transaction processing.
  - Ensured high availability and reliability of backend services.
  - Collaborated with front-end teams to enhance user experience.

## Educational Qualifications

- April, 2024 **Higher Secondary Certificate (10<sup>th</sup>: 92.4%, 12<sup>th</sup>: 84.6%)**  
*Rajgomal, Jalandhar*  
S.T.S. World School
- Expected in June, 2028 **Bachelor of Engineering – Computer Science (Current: 9.00/10.00)**  
*Gharuan, Mohali → Phagwara, Punjab*  
Completed Year 1 at Chandigarh University;  
Continuing from Year 2 at Lovely Professional University (LPU)

## 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)

## Awards

- **Codewars:** Achieved a rank of 4 kyu in coding challenges.
- **Project Exhibition (Top 50):** Recognized for innovation and technical skills.
- **NCC Alumni:** Demonstrated leadership, discipline, and teamwork.
- **"Programming in Python: A Hands-On Introduction":** Completed a certified Python course on Coursera.
- **"Academic Writing Skills and IPR":** Completed a certified Research Paper Writing course on LinkedIn Learning.
- **"Design Thinking and Creativity for Innovation":** Completed a certified course for Design Thinking on LinkedIn Learning.

## Skills

- Backend Development
- Machine Learning
- Computer Vision
- Team Collaboration
- Proficient in Python
- AI/ML (numPy, Pandas)
- SQL Proficiency
- Effective Communication
- Data structures
- Object-oriented programming

## Extracurricular Activities

National Cadet Corps (NCC) May, 2020 - Apr, 2022

Competitive Coding: 4 Kyu Rank on Codewars

Hackathon Participant: Collaborated on innovative tech solutions

## Hobbies

- Coding (*Python, SQL, C++*)
- Machine Learning (*OpenCV, MediaPipe*)
- Robotics (*Arduino, Gesture-based Robotics, IoT*)
- Mathematics (*Data Structures, Calculus, Linear Algebra*)
- Problem-Solving & Logical Thinking
- Teamwork & Leadership (*NCC Alumni, Project Exhibition Rank: Top 50*)
- Public Speaking & Communication
- Football

## References

Dr. Vikas Mittal  
(Assistant Professor)  
Chandigarh University

Mr. Gagan Bhatti  
(Head of Physics Dept.)  
S.T.S. World School

## Signature

