Sohrab Pritpal Singh

LinkedIn: https://www.linkedin.com/in/s0hrabsingh/ Email: sohrabsng4@gmail.com
GitHub: https://github.com/sohrabsingh Mobile: +91-9779315900

Skills

- **Languages**: C++, C, Python, Java
- **Frameworks**: Django, FastAPI, TensorFlow, Keras, PyTorch
- **Tools/Platforms**: MySQL, Git/GitHub, API Integration, Data Structures & Algorithms, MediaPipe, OpenCV, ONNX
- **Soft Skills**: Problem-Solving, Team Play, Adaptability, Attention to Detail, Time Management

Projects

- **Non-Manual Features in Indian Sign Language | ISL-NMF** March, 2026 - May, 2026
  - Built a deep learning and computer vision pipeline for detecting Non-Manual Features (NMFs) such as facial expressions, head movements, and eye/brow features in Indian Sign Language (ISL).
  - Implemented three parallel models: Expression CNN (EfficientNet-B0 on AffectNet), Head Movement TCN on pose sequences, and Eye/Brow MLP on landmark features; fused via late fusion.
  - Extracted facial landmarks via MediaPipe from ISL-CSLTR dataset (~700 videos, 100 ISL sentences, 7 signers) and deployed a Flask web interface for real-time webcam and image-based NMF inference.
  - Tech stack includes Python, PyTorch, MediaPipe, Flask, EfficientNet, OpenCV, ONNX.

- **Spell Checker Application | SpellChecker** September, 2025 - January, 2026
  - Developed a hybrid spell correction system combining Edit-Distance (Levenshtein's) and Neural Seq2Seq with Bahdanau Attention, achieving 75–80% accuracy.
  - Built a Bidirectional LSTM-based model (8.3M+ parameters) trained on 251K phonetically-informed error pairs with intelligent confidence-based fusion.
  - Deployed three FastAPI-based REST APIs with a React frontend for real-time testing and production-ready usage.
  - Tech stack includes Python, PyTorch, FastAPI, React, NLP, and Deep Learning.

- **Knowledge-Based Pest Management System | PestSystem** February, 2025 - April, 2025
  - Designed a rule-based system for identifying crop pests and suggesting remedies using a machine learning model with Gemini API in the backend.
  - Developed a CNN model to identify the diseases encountered and classify them into one of the 38 different categories.
  - Tech stack includes HTML, CSS, Django, Python, TensorFlow, Keras

Training

- **CypherSchools – Company** | Certificate June, 2025 - July, 2025
  - Learned principles and advanced knowledge of Data Structures. Worked extensively on implementing and understanding various data structures such as arrays, linked lists, stacks, queues, hash tables, trees, and graphs. Also studied and applied fundamental algorithms including searching, sorting, recursion, dynamic programming, and graph traversal techniques.
  - This project implements a web-based interactive traffic route optimization tool using Flask as the backend and Leaflet.js for map visualization. Two core algorithms were integrated to compute shortest paths in terms of travel time or distance.

Certificates

- PyTorch Bootcamp by OpenCV University | Certificate May 2026
- NPTEL Course on Social Networks | Certificate April, 2025

Extra Curriculars

- Participated in HackVerse Hackathon 2024 January, 2024
- Participated in Android Development Toolkit Workshop February, 2024

Education

- **Lovely Professional University** Phagwara, Punjab
  Bachelor of Technology - Computer Science and Engineering; ***CGPA: 8.65*** *August 2023 - Present*
- **Montessori Cambridge School** Pathankot, Punjab
  Intermediate; ***Percentage: 69*** *April 2021 - March 2023*
- **Bhai Mastan Singh Public School** Sri Muktsar Sahib, Punjab
  Matriculation; ***Percentage: 94*** *April 2020 - March 2021*