

# Sohrab Pritpal Singh

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## SKILLS

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

## PROJECTS

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- **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
- **Real-Time Process Monitoring Dashboard** | [ProcessDashboard](#) March, 2025 - April, 2025
  - The System Monitoring Application is a desktop application developed in Python that allows a user to log how system resources are being utilized, in real-time.
  - The application also contains a built-in process manager that allows a user to review current processes, search for processes, and terminate running applications directly from the user interface of the application.
  - Tech stack includes PyQt6, pyqtgraph, psutil, qdarkstyle

## TRAINING

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- **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

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- NPTEL Course on Social Networks | [Certificate](#) January, 2025 – April, 2025
- Computer Communications from Coursera | [Certificate](#) August, 2024 – November, 2024

## EXTRA CURRICULARS

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

## EDUCATION

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- **Lovely Professional University** Phagwara, Punjab  
*Bachelor of Technology - Computer Science and Engineering; CGPA: 8.77* Since August 2023
- **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