PRABHSIMRAN SINGH MANDARE

Electronics and Communication Engineer

CONTACT

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Sector 35-D, Chandigarh - 160022

EDUCATION

- **B.E. in Electronics & Communication Engineering**
  CGPA: 7.47 | C.C.E.T., affilated to Panjab University, Chandigarh
- **3-Year Diploma in Electronics Engineering**
  Percentage: 74.42% | I.S.T.C.(CSIR-CSIO), Chandigarh
- **Secondary School Certificate (Class X)**
  Percentage: 87.4% | Saupin's School, Chandigarh | Affilated to CBSE

SKILLS

- Proficient in Python and C for AI development and embedded system programming
- Worked with OpenCV, Texify, and SymPy for OCR, computer vision, and symbolic math applications
- Built and trained AI/ML models using TensorFlow, Keras, and Scikit-learn for tasks like deepfake detection and health prediction
- Integrated GPS, gas sensors, and cameras into custom drone and monitoring systems
- Hands-on experience with Arduino and Raspberry Pi for real-time IoT and robotics projects
- Designed and implemented Battery Management Systems (BMS) for safe Li-ion cell usage
- Designed and simulated circuits using Proteus
- Applied IoT communication protocols like Wi-Fi, Bluetooth, and MQTT for smart device connectivity
- Demonstrated strong problem-solving, team collaboration, and technical documentation skills across multiple successful projects

LANGUAGES

- English (Fluent)
- Hindi (Fluent)
- Punjabi (Fluent)

PROFILE

An Electronics and Communication Engineering graduate with a strong foundation in embedded systems, circuit design, and sensor-based technologies. Experienced in developing innovative hardware projects involving microcontrollers, IoT, and wireless communication. Complemented by industrial training in Artificial Intelligence and Machine Learning, with working knowledge of Python, computer vision, and deep learning — bridging the gap between electronics and intelligent systems.

PROJECTS

- **TexifySymPy Solver:** Developed an OCR-based tool to scan handwritten mathematical equations and convert them into LaTeX and symbolic solutions using SymPy.
- **Deepfake Detection System:** Built a CNN-LSTM based AI model to detect deepfake videos with real-time analysis and interface deployment.
- **Quad-Predict:** Designed a machine learning model for predicting used car prices, Parkinson's disease, diabetes diagnosis, and diamond prices using regression and classification.
- **Smart Door Lock:** Created a keypad and IoT-controlled smart lock using NodeMCU, enabling secure and remote access.
- **Multi-Purpose Drone System:** Developed a drone with GPS navigation, camera, gas sensor, and LiPo BMS for environmental data monitoring and autonomous flight.
- **Li-ion Battery Management System (BMS):** Implemented a BMS to monitor voltage, current, and thermal limits for safe Li-ion battery usage.
- **Smart Walking Stick for Blind:** Built an obstacle-detecting mobility aid using ultrasonic sensors and vibration motors to assist visually impaired users.

TRAININGS & INTERNSHIPS

- **6-Month Industrial Training in AI & ML- NIELIT Ropar (Joint Certification with IIT Ropar)** *Jan – July, 2025*
  Focused on Python, machine learning, deep learning, computer vision, and real-world AI projects.
- **4-Week Summer Training in IoT- NIELIT Chandigarh** *June 3 – July 1, 2024*
  Hands-on training on IoT protocols, sensors, microcontrollers, and real-time data integration.
- **1-Month Industrial Training in Industrial Automation- Global SPS, Mohali** *June 1 – July 7, 2023*
  Covered PLC, SCADA, HMI systems, and control panel wiring in an industrial environment.
- **1-Month Industrial Training in Industrial Automation - Brain Domain, Mohali** *August 5 – 6 September 2021*
  Gained practical experience in automation tools, PLC programming, and industrial safety systems.