Jagmeet Singh

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Skills

- **Programming:** C, C++, Python, Verilog
- **Hardware & EDA:** Cadence Virtuoso, Silvaco TCAD, Arduino, PLC, Raspberry Pi
- **Frameworks & Libraries:** React, OpenWebUI, YOLOv8
- **Tools:** Git, No-IP Dynamic DNS, Fusion 360
- **Soft Skills:** Problem Solving, Team Leadership, Adaptability

Internship

- **NIT JALANDHAR – Research on Ferroelectric Materials** Jun 2024 – Jul 2024
  - Worked on VLSI Design project titled "Ferroelectric Field Effect Transistor (FeFET) Design for Sensor Applications".
  - **Tech stacks used**: Silvaco TCAD software.

Projects

- **Implementation of Artificial Nural Network (ANN)**: 2025
  - Designed and simulated an analog neural network using 180nm technology in Cadence Virtuoso.
  - Implemented biological functions like signal multiplication, summation, and thresholding with a sigmoid transfer function.
  - Validated performance through simulations, demonstrating efficiency and potential for low-power AI solutions.

  Tech: Cadence Virtuoso
- **Pothole Detection Using Camera**: 2024
  - Developed a deep learning-based pothole detection model utilizing Yolov8 for object detection.
  - Initially trained model on Roboflow dataset achieving 40% accuracy; later created a custom dataset of 585 images and used image processing to increase dataset size to over 1000 images.
  - Improved model performance to 85% accuracy.

  Tech: Raspberry Pi 4 Model B, Ultralytics YOLOv8, Roboflow, Python
- **Tic Tac Toe probably calculator**: 2024
  - Created a dynamic probability calculator for tic-tac-toe using the tkinter Python GUI library.
  - Enhanced user interaction and decision-making by providing real-time win probability updates during gameplay.

  Tech: Python, CustomTkinter
- **Mechanical Seven Segment Display Clock**: 2023
  - Designed and assembled a mechanical seven-segment display clock, incorporating 28 micro servos and PCA9685 PWM drivers.
  - Fabricated custom 3D-printed components, achieving precise timekeeping by interfacing Arduino with the DS1302 clock module.

  Tech: Arduino, Fusion 360

Certificates

- Al odyssey: mastering deep learning and generative AI, LPU — Jun 2024
- C Certificate in NCC with the rank Under officer — Aug 2024
- Hands-on Machine Learning using python, LPU — Dec 2023
- Arduino, Embitplus — Aug 2022

Achievements

- **Presented a paper in DEVICE IC 2025.**
- **Secured Gold Medel with 5000 Rs Cash Prize in Paper Presentation, Inter-poly tech fest**
  Presented a paper on how augmented reality can revolutionize our world.
- **Consistently ranked among the top 10 students statewide during my ECE diploma:**
  Achieving semester rankings of 10th (Sem 1), 7th (Sem 4), 5th (Sem 5) and 9th (Sem 6).
- **Secured 3rd Prize in Speech Competition, Office of Deputy Commissioner-cum-District Election Officer**:
  Delivered speech on 13th National Voter's Day to spread light on the importance of Vo.
- **Secured 2nd prize in on-the-spot photography, Colors 2023 (CT Group).**
- **Secured 2nd prize in Photography, Kshitiz 2023 (GNA University).**

Education

- **Lovely Professional University** — Punjab, India
  Bachelor of Technology – Electronics and Communication Engg.; ***Percentage: 75.9%*** — *Since Aug 2023*
- **Mehr Chand Polytechnic College, Jalandhar** — Punjab, India
  Diploma - Electronics and Communication Engg; ***Percentage: 81.35%*** — *Sep 2020 - May 2022*
- **Swami Sant Dass Public School** — Punjab, India
  Intermediate; ***Percentage: 75.9%*** — *March 2020*