

PAHULJOT SINGH

pahuljotsingh16@gmail.com | +91-9517703630 | [Github](#) | [LINKEDIN](#)

Education

Thapar Institute of Engineering and Technology, Patiala, Punjab, India <ul style="list-style-type: none">B.E. - Computer Engineering CGPA: 8.22	2021 - 2025
Sanawar An Institute For Children, India <ul style="list-style-type: none">CBSE (Class XII): 95.6%	2020 - 2021
Sanawar An Institute For Children, India <ul style="list-style-type: none">CBSE (Class X): 94.8%	2018 - 2019

Skills

- AI/ML:** Scikit-learn, TensorFlow, OpenCV, Hugging Face, NLP, Diffusion Models
- Programming:** C++, Python
- Data:** Pandas, NumPy, Matplotlib, MySQL, MongoDB
- Tools:** Git, Jupyter, VSCode, Streamlit, Colab
- Coursework:** Artificial Intelligence, Machine Learning, Deep Learning

Experience

AI-ML Intern Spineor Web Services And Technologies	JAN 2025 – PRESENT
<ul style="list-style-type: none">Developed and optimized machine learning models for predictive analytics and data-driven decision-making.Worked on AI solutions for real-world business problems, leveraging libraries like TensorFlow, Numpy and Pandas.Collaborated with cross-functional teams to deliver AI-powered product enhancements.	

Projects

U.S. Home Price & Economic Analysis Ridge Regression, Time Series, FRED API, Scikit-learn Link	
<ul style="list-style-type: none">Engineered a monthly time-series dataset (2004–2024) from 10+ FRED macroeconomic indicators (interest, inflation, income, permits, etc.) and S&P Case-Shiller Home Price Index. Dataset LinkApplied advanced time-series feature engineering (lag, rolling, ratios, pct_change) to build a predictive pipeline.Trained Ridge Regression (GridSearchCV, TimeSeriesSplit) achieving $R^2 = 0.969$, MAE = 5.33 on smoothed prices.Delivered model explainability using PDPs, correlation heatmaps, and coefficient analysis; deployed model via joblib.	
AI Interview Bot FastAPI, MongoDB, Whisper, Transformers Link	
<ul style="list-style-type: none">Built a full-stack voice-based interview assistant where users respond via speech; responses are transcribed using Whisper and stored in MongoDB with session tracking.Developed question delivery and response logic using FastAPI, React state management, and integrated difficulty-based filters for dynamic interview flow.Curated a custom QnA dataset (~2K entries) and planned integration of evaluation using LangChain + Transformers for real-time feedback	
Virtual Try-On System (Diffusion + Warping Model) TensorFlow, Diffusion Models, OpenCV, TorchVision	
<ul style="list-style-type: none">Developed a high-resolution virtual try-on system using DCI-VTON.Integrated pretrained warping and diffusion modules with optimized GPU/CPU sampling via DDIM and PLMS.Automated inference pipelines for the VITON-HD dataset, adding fallback logic and batch control.Enhanced test.py for memory efficiency and sample diversity.	

Soft Skills

Quick adaptability to new tools/technologies, Communication Skills, Researching, Resilient under tight deadlines, Troubleshooting