

Jignesh Sabharwal

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EXPERIENCE

Waisl Limited

Intern

June 2026 – Present

New Delhi, India

- Developed an end-to-end OpenCV computer-vision pipeline (**Baggage-Detector**) that auto-detects conveyor-belt ROI from airport ramp camera footage by fusing color and Hough-line cues with robust Huber line fitting, classifies belts as roofed vs. open, and tracks baggage via MOG2 background subtraction + centroid tracking to classify LOADING/UNLOADING/IDLE status in real time – CPU-only, no GPU required.
- Built and benchmarked IT-service-ticket classifiers on a raw dataset of **281,311 tickets**: TF-IDF + Naive Bayes/Logistic Regression baselines reached 65%/62% accuracy, while a fine-tuned **DistilBERT** transformer reached **62.65% accuracy**, outperforming RNN (49.8%) and LSTM (45.4%) baselines by 13–17 points.
- Performed site-wise SLA and workload analysis across Delhi, Hyderabad, and Goa; identified automation opportunities worth **15.5K hours of potential savings (2.7% of workload)** at the Hyderabad site through ticket-pattern clustering (K-Means, TF-IDF + LSA, silhouette-optimized at $k=14$).

GMR

Intern – Global Aeronautical Opportunities Study, DIAL

Jun 2023 – Jul 2023

New Delhi, India

- Surveyed top global airports' business strategies and presented automation and revenue-generation recommendations to senior stakeholders.

PROJECTS

From-Scratch ReAct Agent | Python, Asyncio, Groq API

- Implemented a ReAct (Reasoning + Acting) agent loop from scratch in pure Python/asyncio – no LangChain/CrewAI – with an Observe→Think→Act→Observe cycle, a tool-dispatch table (calculator, time lookup), and conversation-history re-injection so the LLM reasons over its own prior tool results.
- Designed tools to fail safely (return error strings instead of raising) so a bad or unknown tool call never crashes the agent loop; added a max-turn safety limit to bound runaway reasoning cycles.

Taxi Trip Duration Prediction | Python, Scikit-Learn, XGBoost

- Built an XGBoost regression pipeline with feature engineering on the NYC Taxi Trip Duration dataset (Kaggle, 1.4M+ records), achieving a leaderboard RMSLE of 0.4404 (public) / 0.4407 (private).
- Applied a two-stage cleaning pipeline (domain filters + IQR outlier removal) and engineered haversine/Manhattan distance, bearing, and temporal features; tuned hyperparameters via 5-fold CV with RandomizedSearchCV (50 candidates), improving local CV RMSLE to 0.306.

EDUCATION

GATE 2025 Qualified

2025

Central University of Punjab

2025 – 2027

M.Tech in Computer Science; CGPA: 7.84

Punjab, India

Jamia Hamdard

2021 – 2025

B.Tech in Computer Science; CGPA: 8.09

New Delhi, India

POSITIONS OF RESPONSIBILITY

Organizer & Problem Setter – Codathon (Engineers Day)

Sep 2025

Central University of Punjab

- Designed problem statements for a university-level hackathon focused on algorithmic thinking; coordinated end-to-end event execution and team evaluation.

TECHNICAL SKILLS

Programming Languages: Python, C/C++, SQL, JavaScript, HTML/CSS

Machine Learning & Computer Vision: Keras, Scikit-learn, XGBoost, OpenCV, Hugging Face Transformers, TensorFlow, PyTorch, NumPy, Pandas, Matplotlib, Seaborn

Generative AI & Agentic AI: LangChain, ReAct, Pydantic, Asyncio, FAISS, Chroma, Sentence-Transformers, LLM Tool Calling (Groq, Anthropic APIs)

Developer Tools: Git, GitHub, Docker, VS Code, Jupyter Notebook, Google Colab, Vector Databases