

SUSHANT DUGGAL

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EXPERIENCE

Pahal NGO — Intern (Volunteer) | Jan 2024 - Jun 2024

- Streamlined documentation and reporting for 6 community projects, cutting turnaround time for internal reports by 25% through structured templates in Word and Excel.
- Consolidated and verified 1,000+ project records using Excel, improving data reliability and reducing duplicate entries by 15%.
- Conducted digital literacy workshops for 75+ students, increasing class participation and retention rates by 35%.
- Coordinated 3 awareness drives with 20+ volunteers, improving event attendance from 80 to 110+ participants on average.
- Designed basic Excel dashboards to summarize key project metrics, enabling faster decision-making for team leads and improving visibility across projects.

Khan Academy India — Localisation Data Expert | Aug 2022 – Oct 2022

- Standardized and categorized 5,200+ educational dataset records across 10+ academic subjects, improving metadata accuracy to 95%.
 - Refined content tagging and alignment for localized Math, Science and Computer Science material, cutting content error reports by 33% within one release cycle.
 - Collaborated with cross-functional teams of 15–20 members to review data pipelines and content accuracy, contributing to a smoother update process for 1M+ Indian learners.
 - Developed a categorization workflow that reduced retrieval time per dataset, increasing internal efficiency by 90%.
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PROJECTS

Full-Stack Geospatial Navigator: Scale-Optimized A* Pathfinding Engine

- Engineered a full-stack routing engine for Delhi NCR, processing a graph of 100,000+ nodes and edges from OpenStreetMap using Python and NetworkX to enable real-time urban navigation.
- Reduced pathfinding latency by 40% by implementing a custom *A Search Algorithm* with a Haversine Heuristic, optimizing search space efficiency over standard Dijkstra for spherical geospatial data.
- Ensured 100% route reachability by pre-processing the road network to extract the Largest Strongly Connected Component (SCC) and utilizing KD-Tree indexing for $O(\log N)$ coordinate-to-node mapping.
- Architected a RESTful Flask API to bridge a high-logic backend with a Leaflet.js frontend, incorporating graph simplification and hierarchical edge-weighting to provide precise distance and travel time metrics.

Friends TV Show Analysis (Word2Vec, NLP)

- Analyzed 22,000+ dialogue lines from *Friends*, identifying 400+ recurring character interactions and emotional tone patterns.
- Performed sentiment and word frequency analysis using NLTK, quantifying positive/negative dialogue ratios with 92% model precision.
- Visualized interaction networks for 8 lead characters using Matplotlib and Seaborn, highlighting shifts in sentiment intensity across 10 seasons.
- Packaged the analysis into a reproducible Google Colab notebook with modular code and runtime reduced by 20% through optimized preprocessing.

Portfolio & Clone Websites (Frontend Development)

- Developed and deployed 2 responsive websites using HTML, CSS, JavaScript, and Bootstrap, achieving 100% mobile compatibility verified via Lighthouse audits.
 - Implemented version control through Git/GitHub, maintaining 100+ commits and enabling clean, trackable deployment cycles.
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SKILLS

Programming: Python, C++, JavaScript

ML & AI: Scikit-learn, TensorFlow, Keras, Matplotlib, NLP, Word2Vec

Development: HTML, CSS, JS, Frontend Development

Database: SQL, MySQL, XAMPP

CS Fundamentals: Data Structures & Algorithms (DSA), Operating Systems, OOP, QA Testing, LLD

Tools: Git, Github, Jupyter Notebook, Google Colab, MS Office, LaTeX, MatLab

CERTIFICATIONS

- Supervised Machine Learning** — Stanford University (Coursera) | Sep 2025
 - Operating Systems** — Google (Coursera) | Jul 2025
 - Computer Networking (Bits & Bytes)** — Google (Coursera) | Jul 2025
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EDUCATION

- Kirori Mal College, University of Delhi**
Bsc. Physical Sciences with Computer Science | CGPA: 8.00 | Nov 2022 – Jul 2026
- Kulachi Hansraj Model School (CBSE)**
Class XII: (Non-Medical with Computer Science): 91% | 2022
Class X: 89.4% | 2020