ANSHU PANDEY

📍 India
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SKILLS

Languages: Python, SQL
Machine Learning: Linear & Logistic Regression, Decision Trees, Boosting, SVM
Deep Learning: ANN, CNN, RNN, LSTM, GRU, Transformers (from scratch & PyTorch)
Data & Analytics: Pandas, NumPy, Feature Engineering, EDA
Backend & DB: PostgreSQL (Supabase), SQLAlchemy
Visualization: Streamlit, Matplotlib, Seaborn
Engineering Concepts: Data Pipelines, Drift Detection, Schema Migration, Idempotent Systems

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PROJECTS

DSA Analytics & Learning Drift Detection System

Python | PostgreSQL | Streamlit | SQLAlchemy

- Designed and deployed an end-to-end analytics system to track real-world coding activity with week-safe aggregation.
- Designed **date-driven week logic** using `week_start_date` to ensure correct aggregation despite irregular pipeline runs.
- Implemented **feature engineering** including lag features, rolling growth, ratios, and consistency metrics.
- Developed a **learning drift detection system** to identify inactivity, sudden drops, and declining trends.
- Led a production database migration from MySQL to PostgreSQL (Supabase), resolving auto-increment, transaction, and schema incompatibilities.
- Implemented **idempotent ingestion logic** to prevent duplicate daily snapshots.
- Added **data retention policies** to automatically clean old records and maintain long-term system stability.
- Built an interactive **Streamlit dashboard** with leaderboards, visual analytics, and drift alerts.
- System currently supports multi-platform user tracking with automated weekly aggregation and drift alerts

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Machine Learning & Deep Learning (Scratch Implementations)

Python, NumPy, PyTorch

- Implemented **Regression, SVM, Decision Trees, and Boosting algorithms** from scratch to understand optimization and learning dynamics.
- Built **Artificial Neural Networks (ANN)** from scratch with manual forward and backward propagation.
- Implemented **CNN architectures** from scratch and in PyTorch, understanding convolution, pooling, and normalization.
- Implemented **RNN, LSTM, and GRU models** to learn sequence modeling and temporal dependencies.
- Studied and implemented **Transformer fundamentals**, including attention, encoder-decoder flow, and recurrence alternatives.

DATA STRUCTURES & ALGORITHMS

- Solved **hundreds of DSA problems** on LeetCode across arrays, strings, trees, graphs, DP, and sliding window patterns.
- Focused on **pattern recognition and optimization techniques** rather than brute-force solutions.
- Maintained a **consistent public learning log** through a LinkedIn "100 Days of DSA & ML" series.

EDUCATION

Bachelor of Technology (B.Tech)

Gurukul Kangri Deemed To Be University | 2024