

Aniket Dash

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TECHNICAL SKILLS

- **Languages & Technologies:** Python, PyTorch, Pandas, NumPy, SQL, MySQL, PySpark, Git, LangChain, Ollama, LangGraph
- **Visualization Tools:** Matplotlib, Seaborn
- **ML/Engineering Tools:** Google Earth Engine, Docker, FastAPI, scikit-learn, OpenCV, Streamlit

EXPERIENCE

- **Cropin** Remote
Data Science Intern *Nov 2024 – Apr 2025*
 - **SimCLR for Satellite Scene Understanding (source):** Built a self-supervised **SimCLR** framework using ResNet-18, ResNet-50, ResNet-101 backbones to pretrain a **large-scale encoder on unlabelled satellite imagery**, addressing annotation scarcity.
 - Expanded the framework to support Instance Segmentation as a downstream task, improving object isolation in complex terrains.
 - Engineered a robust **MLOps** pipeline with **CI/CD** integration (GitHub Actions), ensuring automated testing and seamless model deployment.
 - Evaluated learned representations using **t-SNE** visualizations and fine-tuned the encoder for scene classification, achieving **79%** accuracy.
- **Dopamine Dose** Odisha, India
Business Analysis Intern *Aug 2023 – Feb 2024*
 - **Operational Optimization (source):** Performed data-driven business and customer analysis, improving profit margins from 39.25% to 50.27%. Proposed actionable strategies for menu optimization and delivery partnerships.

WORK

- **Creator Passport - Authenticity Protocol (source):** Developed an API-first platform and SDK implementing the C2PA standard to cryptographically verify digital content application-wide, preventing AI-based misinformation.
- **ChangeSense (source):** Built a **YOLOv8-seg** + LLM-based structural change detector with mAP 0.74, fully Dockerized and integrated with CI/CD via GitHub Actions.
- **Chronos Smart Retry (source):** Designed an intelligent payment recovery system using **XGBoost** to optimize retry windows based on holiday and payday patterns. Built an ROI simulator with **Plotly** demonstrating 140% revenue uplift over naive strategies using synthetic transaction history.
- **ResearchGraph (source):** Developed a **LangGraph-powered** research assistant using Ollama (**LLaMA 3.2 1B**) with vector search, classification, and iterative summarization for context-aware paper summarization.
- **Truth Seeker (source):** Developed an AI-powered investigative tool using **Knowledge Graphs** and **LLMs (Ollama)** to extract entities and relationships from case briefs. Built an interactive React Flow visualization to map complex connections, aiding intuition and analysis.

EXTRAS

- **Newsletter - Geophonic:** Exploring how music, earth observation, and data science connect.
- **5th Place, Pan-BS ML Challenge:** Fake News Detection in Dravidian Languages, IIT Madras (2024)
- **Course Topper:** Business Analytics, IIT Madras (2023)

EDUCATION

- **Indian Institute of Technology, Madras** Chennai, India
Bachelor of Science in Data Science; GPA: 7.0 *Jan 2021 – Apr 2025*
- **Odisha University Of Technology And Research** Odisha, India
Integrated MSc in Applied Physics