Nishant

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Portfolio: https://nishant0363.github.io/projects.com
Github: https://github.com/nishant0363

Education

- **National Institute of Technology Surat (SVNIT)** — Surat, Gujarat India
  Integrated Masters - Mathematics - CGPA 6.76 (Till 7th Semester) — *July 2021 - June 2026*
  Courses: *Linear Algebra, Probability & Statistics, Optimization Techniques, Data Structures, Computer Networks, Artificial Intelligence.*
- **OP Jindal Modern School** — Hisar, Haryana, India
  12^{th} Grade - 97% Nishant-12th_Marksheet — *April 2019 - March 2021*
  10^{th} Grade - 96.2% Nishant-10th_Marksheet

Skills

- **Languages**: Python, SQL, Matlab, C, JavaScript
- **Frameworks**: Scikit-learn, NLTK, TensorFlow, Keras, PyTorch, HuggingFace Transformers, FastAPI, Django, Flask, Streamlit, LlamaIndex, LangChain, Pandas, NumPy, OpenCV
- **Tools**: Kubernetes, Docker, GIT, MySQL, SQLite

Experience

- **Indian Institute of Management, IIM Bangalore** — Onsite - Bangalore
  Data Scientist (Internship) - Nishant_IIMB_Joining Letter — *May 2024 - Present*
  - **Data Engineering**: Scraped, Structured and Combined Large scale Water quality dataset of over 100 GB for complete India with Satellite derived variables to prepare the dataset encompassing 600,000 villages and more than 85.61 million observations representing the most extensive compilation of drinking water pollution records ever assembled in India for Water Quality research.
  - **Research and Publication**: Modeled the dataset into Advanced Regression frameworks using Statistical methods.Now Compiling all research outputs into a paper for submission under the mentorship of Dr. Aditya Shrinivas, for government funded project "Jal Jeevan Mission".
- **Space Application Center, ISRO** — Onsite - Ahmedabad
  Machine Learning (Internship) - Nishant_ISRO_Certificate — *Dec 2023 - April 2024*
  - **Project**: Under the mentorship of Dr. Sujay Dutta, a distinguished scientist at ISRO, worked on remote sensing and applied machine learning techniques to predict Nitrogen content in plants using satellite data (Multi and Hyperspectral).
- **Aviac Technologies, IIT Hyderabad** — Remote
  Image Processing and Deep Learning (Internship) - Nishant_Aviac_Certificate — *Feb 2024 - April 2024*
  - **Project**: Worked on image analysis and processing in Python using the OpenCV library. Built specific object detection projects for satellite and drone image analysis of crops to perform various processes such as segmentation, identification, and vegetation crop land counts. Explore my work at - https://nishant0363.github.io/Crop_analytics_using_CV2_python/

Projects

- **Retail Analytics Multi Agent** — **Accenture Data & AI Hackathon 2025** :
  - : Designed a multi-agent ReAct architecture with three parallel agents: Agent 1: Primary query processor using Gemma 2-9B, Agent 2: Code generation specialist using Qwen 2.5 Coder (32B), Agent 3: Consensus builder for final results
  - : Integrated custom query engines that convert natural language into executable Python code using LlamaIndex. Developed a Streamlit dashboard for interactive results and transparent reasoning via chain-of-thought.
  - : Technologies used: Python, Pandas, Streamlit, Git, LlamaIndex, Groq Cloud APIs, custom prompt engineering.
  - : Achieved enhanced accuracy and explainability by combining strengths of different LLMs in a parallelized framework
  - : Deployed via Streamlit Cloud - https://nishant-accenture-agent.streamlit.app/
- **Perfume Recommendation - (Intership Project at V Square Tech LLP)**: AI model to predict and interactively suggest perfumes. Tech: Python, NLTK, NLP, Scikit-learn, MySQL. (March '2023)
- **Crop health from UAV Satellite Imagery using OpenCV**: Images clicked using drones, provided by Aviac IIT Hyderabad during my internship were utilised to analyse crop health, count, soil quality and more remotely (February '2024)

Publications

- **Working Paper: Trends in Drinking Water Quality and Violations Across India (2009–2024)**: Paper presents the first comprehensive national assessment of drinking water quality violations under the JJM framework, analyzing trends and impacts across multiple states and time periods. We evaluate both spatial and the temporal patterns while identifying the key vulnerability factors. With advanced regression analysis, this research models the probability of water quality violations based on various factors, including pollutant levels (e.g., fluoride, nitrate, arsenic), temporal variables (year, month), and geographic attributes (state-level variations).
- **Project Report:Utilizing Normalised Difference Red Edge Index to predict Nitrogen content in Fodder crops from Hyperspectral and Multispectral Data)**: Utilized hyperspectral reflectance data (350–2500nm) to identify strong correlation between spectral band depth at 676nm and nitrogen content in fodder crops (Berseem, Maize). Leveraged this insight to estimate nitrogen using NDRE from multispectral satellite imagery. Achieved 87%+ correlation with lab nitrogen data and developed a linear regression model with 75%+ accuracy Nishant-ISRO_Research_Project_Report

Leadership

- **Community Lead at Google Developers Student Clubs GDSC** SVNIT Surat
  Conducted technical workshops impacting over 300 students in AI-ML
- **Co-Head of Literary Affairs Committee** SVNIT, Surat
  Organized club events, literature festival and seminars.