SARTHAK SUNIL DHANKE

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Data Scientist with experience in deep learning (CV, GNNs, NLP), LLM agents, and classical ML. Skilled in PyTorch, TensorFlow, model debugging, and data-centric development. Focused on calibration, feature design, and deploying models that align with real-world decision contexts and safety constraints.

EDUCATION

The University of Chicago – M.S. in Applied Data Science *Expected Dec 2025 | GPA: 4.0*
Coursework: Computer Vision, Machine Learning, Bayesian ML with GenAI, AI Safety Fundamentals, MLOps

IIT (BHU) Varanasi – B.Tech in Electronics Engineering *Jul 2017 – May 2021 | GPA: 3.7*
Publication: "Index Modulation Multiple Access via Deep Learning Detection," IEEE 5GWF 2020

EXPERIENCE

DV & Automation Engineer | *Texas Instruments* *Jun 2021 – Jun 2023*

- **TPS3813:** Reduced time-to-market by 3 months through scalable test automation solution
- **REF35:** Optimized voltage reference parameters using ML, reducing test effort by 2 weeks
- **TPS3808E:** Reduced simulation processing from 1 week to 30 minutes with Python automation
- **TPS3436:** Built end-to-end test suite in VBA and Python, cutting test time by 90%

Researcher – AI Agent Developer

- Engineering agentic workflow to automate market lead scrubbing at a top U.S. wealth management firm

Research Assistant – Cultural Analytics | *UChicago Faculty Led Research*

- Analyzing sentiments in Taylor Swift's lyrics, tours, and media to study symbolic meaning in pop music

Teaching Assistant – Computing for the Social Sciences | *UChicago*

- Taught coding, Git, and DataViz via focused assignments and feedback to prepare students for research

Research Assistant – Film Development | *STAGE Lab, UChicago*

- Used OpenAI Whisper to translate and polish Marathi transcripts for research-driven film storytelling

Research Assistant – Public Health | *BREATH Lab, UChicago Medicine*

- Built ethics-aligned study website using HTML/CSS and JavaScript; supported unbiased data collection

PROJECTS

- **Robotics:** Prototyping prompt-driven agentic system for drone swarm choreography
- **Aviation:** Built multi-agent system for real-time crew disruption recovery using LangChain+RAG
- **Digital Media:** Achieved 90% accuracy on UCF-101 using optimized CNN-LSTM architecture
- **Healthcare:** Built calibrated XGBoost model for readmission classification; $200K projected savings
- **Transport:** Improved accident risk prediction using Random Forests; enabled $5.25M targeted savings
- **Big Data & Cloud:** Processed 1.5M GitHub commits with PySpark; revealed contributor trends
- **Medical Imaging:** Built Bayesian model for X-rays; improved robustness against adversarial attacks
- **Energy:** Forecasted EV charging demand with seasonal and intervention-aware time series modeling
- **Recommender Systems:** Modeled user-place links via GNN; extracted patterns from Yelp graph data

SKILLS

Languages & Tools: Python, R, SQL, HTML/CSS, JavaScript, Tableau, Git, Linux, Streamlit
Libraries: Scikit-learn, PyTorch, TensorFlow, XGBoost, Matplotlib, Seaborn, LangChain
Data Engineering & MLOps: Airflow, Docker, Spark, GCP, MLFlow, H2O, Differential Privacy