

# NIRAJ PATIL

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## EDUCATION

### University of Illinois at Urbana-Champaign

MS in Technology Management • Urbana-Champaign, IL • 2025 • 3.93/4.0

• Relevant Coursework: Data Science; Big data Infrastructure; Data Storytelling; Project Management; Technology Strategy

### University of Mumbai

Bachelor's in Mechanical Engineering • Mumbai, India • Jul 2022 • 3.7/4.0

• Capstone Project: Designed & controlled a Shell and Tube Heat Exchanger, improving system accuracy by 95%.

## SKILLS

**Programming:** Python, Pandas, NumPy, Scikit-learn, TensorFlow, PySyft, Matplotlib, Seaborn, Kotlin

**Data Science:** Supervised Learning, Regression, Classification, EDA, Data Pipeline Automation, Time-Series Analysis

**ML / AI:** Federated Learning, LSTM, RLib, Model Deployment, Privacy Layers

**Tools & APIs:** Flask, AlphaVantage API, Yahoo Finance API, GitHub, Jupyter Notebook, Tableau

**Soft Skills:** Leadership, Communication, Problem Solving, Storytelling, Adaptability

**Languages:** English (Fluent), Hindi, Marathi, French (Conversational)

## EXPERIENCE

### Senior Consultant – Data & Strategy

FACES Consulting

Aug 2024 – Present, Champaign, IL

- Consulted with **AI-driven startups** (UIUC-affiliated) to optimize **product strategy**, **data pipelines**, and growth models.
- Delivered actionable insights on AI system performance, improving operational efficiency by **15%**.
- Facilitated **stakeholder workshops**, designed user stories, and developed **data-driven strategic roadmaps** supporting AI product expansion.

### Operations Manager – Analytics & Process Optimization

Flora Drugs & Pharmaceuticals

Nov 2023 – May 2024, Mumbai, India

- Streamlined **manufacturing workflows**, leading to a **10% increase in production efficiency** and reduced bottlenecks.
- Built **data-driven production reports** that enhanced management decision-making on resource allocation.
- Oversaw inventory and quality control systems, improving operational visibility and compliance.

### Product Management Intern – Process Analytics

Scottish Chemicals Industries

Sep 2022 – Mar 2023, Mumbai, India

- Coordinated cross-functional teams to execute plant maintenance projects, improving throughput by **5%**.
- Analyzed process data and developed **performance reports** highlighting operational bottlenecks.
- Supported senior leadership in optimizing maintenance schedules, reducing downtime.

## PROJECT

### Federated Healthcare Recommendation System | Python, TensorFlow, PySyft, Flask

[github.com/Nstar9/Federated-Healthcare-Recommendation-System](https://github.com/Nstar9/Federated-Healthcare-Recommendation-System)

- Built a **privacy-preserving ML system** using Federated Learning on 3 real-world healthcare datasets with **10K+** records.
- Integrated differential privacy layers and explainability tools, improving patient **data security by 100%** (zero data centralization).
- Deployed a functional recommendation API delivering personalized healthcare plans with **80%+ accuracy**.
- Architecture adaptable for educational platforms to deliver **privacy-first** student learning recommendations.

### AlphaForge ML Stock Predictor | Python, Scikit-learn, AlphaVantage API

[github.com/Nstar9/AlphaForge-ML-Stock-Predictor](https://github.com/Nstar9/AlphaForge-ML-Stock-Predictor)

- Collected real-time stock data for **5+ assets** via API, generating 25 engineered features per asset.
- Achieved **72% prediction accuracy** on test datasets, backtested strategy over 2 years with 8% profit potential.
- Automated daily pipeline for data fetching, model training, and evaluation, reducing manual workload by **80%**.

### Customer Data Analysis & Time-Series Pipeline | Python, Pandas, Seaborn, Matplotlib

[github.com/Nstar9/Customer-Data-Analysis](https://github.com/Nstar9/Customer-Data-Analysis)

- Processed and cleaned **50,000+ customer records**, performing EDA and detecting **5 key seasonal patterns**.
- Implemented time-series smoothing and moving averages, improving trend visibility by **40%**.
- Automated the data pipeline, reducing processing time by **60%** while maintaining modularity.

### Stock Market Data Pipeline Automation | Python, Yahoo Finance API, Pandas

[github.com/Nstar9/Stock-Market-Data-Pipeline](https://github.com/Nstar9/Stock-Market-Data-Pipeline)

- Automated extraction, cleaning, and storage of **1,000+ stock records** daily from Yahoo Finance API.
- Integrated error handling, improving pipeline reliability to **99% uptime** over continuous runs.
- Scheduled daily updates, reducing manual workload by **80%** and ensuring clean datasets for modeling.

### Crypto Price Forecasting (DRW Kaggle Competition) | Python, Scikit-learn, XGBoost, PCA

DRW Chicago • [github.com/Nstar9/Crypto-market--Prediction](https://github.com/Nstar9/Crypto-market--Prediction)

- Designed an **ML pipeline** to predict short-term crypto price movements using noisy multi-asset tick-level data.
- Completed EDA, feature selection, and baseline model training with XGBoost and Logistic Regression.
- Currently **optimizing model** performance through signal smoothing, validation slicing, and ensemble tuning.

### InsiderIntel – Insider Trade Signal Detector (In Progress) | Python, Pandas, Yahoo Finance API

[github.com/Nstar9/insider-intel](https://github.com/Nstar9/insider-intel)

- Built a system to scrape and analyze **SEC Form 4 insider trades**, calculating post-trade returns across time windows.
- **Currently developing** anomaly scoring logic to flag unusually profitable trades for potential alpha signals.

## INVOLVEMENT

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### LEADERSHIP & INITIATIVES

University of Illinois Urbana-Champaign | University of Mumbai | FACES Consulting | Teach For India • May 2018 – May 2025

- **Founded ReadLight.net**, an edtech initiative delivering simplified book reviews and academic concept explainers through storytelling formats; led content creation and early web deployment before sunseting the project.
- **Organized** Innovation Week at University of Mumbai; hosted **5+** entrepreneurial workshops and secured **3+** sponsor deals
- Led digital literacy bootcamps for **100+** underserved youth in partnership with Teach For India and local community centers
- Awarded “**Best Engineering Project**” at University of Mumbai for work r during final-year capstone presentation