



SOMAIYA
VIDYAVIHAR UNIVERSITY

DataZen

Official Council for **Data Science**,
Somaiya Vidyavihar University

• DATAZEN PRESENTS •

DATATHON 2026

24 HOUR NATIONAL LEVEL HACKATHON

GENERATIVE AI

PROBLEM STATEMENT 1

AI-Driven Enterprise Delivery & Workforce Intelligence

Design an AI-powered enterprise intelligence system that converts raw engineering activity such as task execution, code contributions, and project workflows into meaningful business-level insights.

The system should bridge the gap between low-level technical signals and high-level metrics like delivery health, cost efficiency, productivity, and workforce utilization.

The solution must scale across large organizations, adapt dynamically to changing priorities and resource constraints, and provide real-time, actionable insights tailored for engineering leaders, product managers, HR, finance teams, and executives. The goal is to enable predictable delivery, better resource allocation, and data-driven organizational decision-making.

Business Impact:

By transforming engineering operations into measurable business intelligence, organizations can identify delivery delays and cost risks early, improve planning accuracy, optimize workforce usage, and increase return on engineering investment. This reduces dependency on intuition and enables consistent, scalable operational excellence.

GENERATIVE AI

PROBLEM STATEMENT 2

Explainable AI for Social Media Trend Decline Prediction

Design an explainable Generative AI system that predicts when and why social media trends such as memes, hashtags, or viral topics begin to lose momentum and eventually collapse.

Rather than focusing only on trend growth or virality, the system should identify early decline signals, including reduced engagement, influencer disengagement, algorithmic shifts, content saturation, or audience fatigue.

The system must clearly explain the reasoning behind each prediction, allowing users to understand not just the outcome, but the underlying causes driving the trend's decline.

Business Impact:

This solution enables social media platforms, marketers, and creators to better understand the complete lifecycle of online trends. By forecasting decline early and explaining its drivers, organizations can avoid wasted marketing spend, adjust content strategies in time, manage trend risks proactively, and make informed decisions about reviving, moderating, or exiting trends.

CORE ML

PROBLEM STATEMENT 1

Urban Traffic Congestion Forecasting System

Design a machine learning-based time-series forecasting system to predict traffic congestion levels in urban environments.

The system should integrate data from multiple sources including GPS data, traffic sensors, weather conditions, and city events to generate accurate hourly or daily congestion forecasts.

It must handle multivariate inputs, adapt to evolving traffic patterns, and produce reliable predictions that support real-time traffic control, route planning, and congestion mitigation strategies.

Business Impact:

Accurate congestion forecasting allows city planners, traffic authorities, and navigation platforms to anticipate traffic issues before they occur. This leads to better traffic signal optimization, smarter route recommendations, reduced travel delays, lower fuel consumption, decreased emissions, and improved overall urban mobility.

CORE ML

PROBLEM STATEMENT 2

Network-Based Game-Theoretic Modeling of Financial Infrastructure

Design a network-based, game-theoretic model to analyze strategic interactions among financial institutions such as banks, exchanges, and clearing houses operating within a shared financial infrastructure.

The model should capture how local decisions such as credit provision, margin requirements, and trade routing interact through network connections like credit exposures and settlement obligations. These interactions should explain how individual incentives influence system-level outcomes including liquidity flow, congestion, systemic risk, and financial stability.

The system must account for strategic behavior under incomplete information and demonstrate how localized decisions propagate through the network to either strengthen resilience or trigger cascading failures.

Business Impact:

This model helps regulators and financial institutions understand how micro-level decisions can create macro-level financial risks. By identifying fragile structures, bottlenecks, and incentive misalignments, the solution supports better regulatory policies, safer clearing mechanisms, improved risk management, and more resilient financial systems capable of withstanding economic shocks.



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