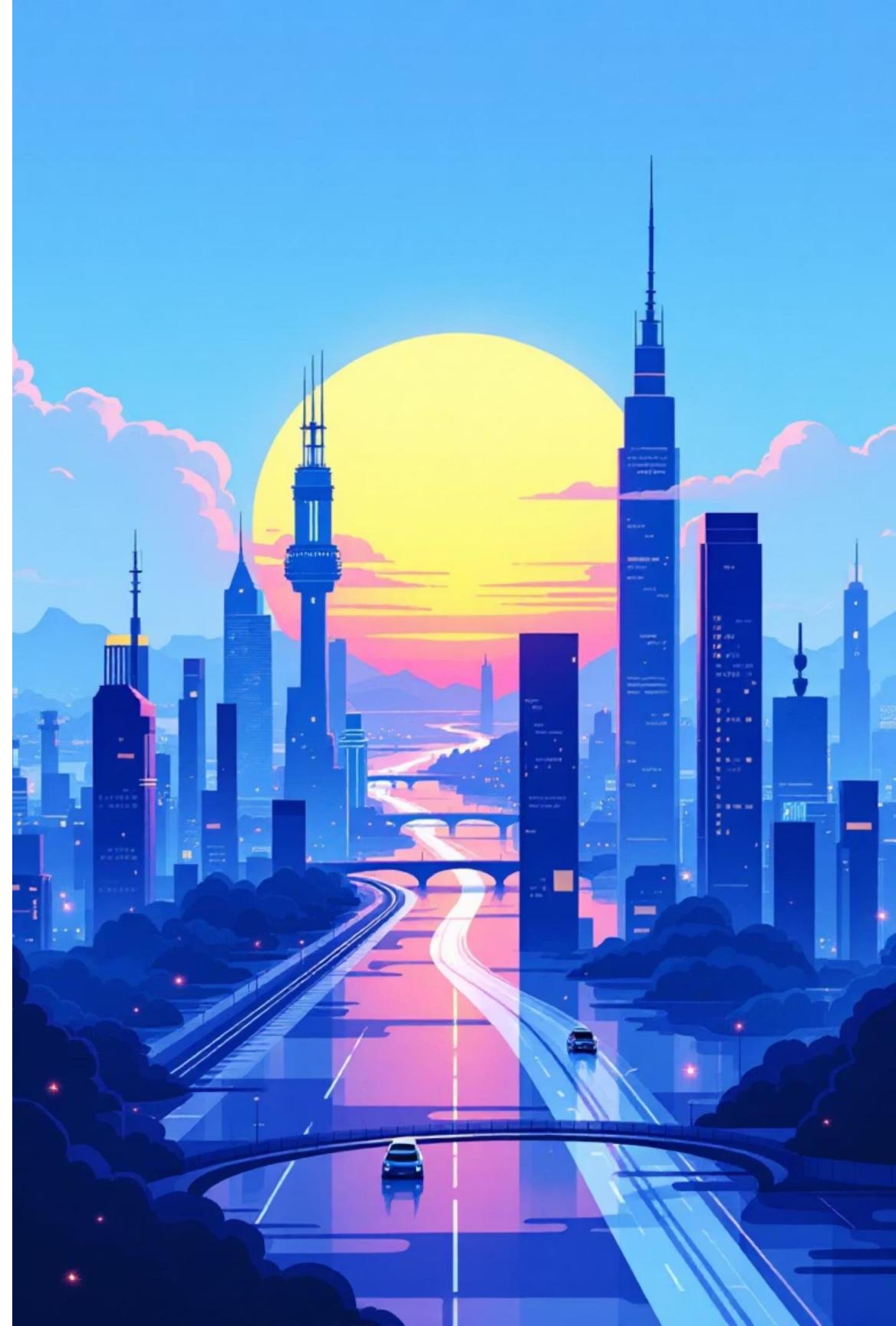


AI-Powered Grievance Redressal System

Byte Quest – AI Vibe Coding Challenge 2026

Team: InnovateX



PROBLEM STATEMENT

Addressing Citizen Grievances in Public Governance

Public governance bodies are swamped with thousands of daily citizen grievances concerning civic infrastructure, sanitation, public safety, utilities, healthcare, education, and administrative delays. These complaints are mostly unstructured and processed manually, leading to significant delays, backlogs, and a stark lack of transparency.

Crucially, critical issues like accidents and safety risks often fail to receive proper prioritisation, jeopardising citizen well-being.



Introducing the AI-Powered Grievance Redressal System



Automated Analysis

Leveraging NLP and sentiment analysis to automatically process and understand complaints.



Intelligent Classification

Classifying grievances by type and assigning priority levels to streamline response.



Efficient Routing

Automatically directing complaints to the most relevant departments for swift action.



Critical Escalation

Ensuring safety-critical issues are immediately escalated for urgent attention.



Real-time Monitoring

Providing administrators with a dynamic dashboard for live complaint tracking and oversight.

Seamless Flow from Complaint to Resolution

- 1 Citizen Submits Grievance**

Via a user-friendly web application, ensuring accessibility for all.
- 2 NLP Engine Analysis**

Complaint text is meticulously analysed for keywords and context.
- 3 Sentiment Detection**

Sentiment analysis identifies emotional distress or urgency within the complaint.
- 4 Priority Assignment**

A rule-based engine scores and assigns a priority level based on predefined criteria.
- 5 Departmental Routing**

Complaint is automatically directed to the appropriate government department.
- 6 Real-time Dashboard Update**

Admin dashboard instantly reflects the new complaint and its status.

OUR INNOVATION

Transparency and Precision in AI Governance

Explainable AI

Utilising rule-based NLP, moving away from opaque "black-box" models to ensure clarity and trust.



Deterministic Prioritisation

Guaranteeing consistent and reliable prioritisation for all safety-critical complaints.

Transparent Scores

Each priority score comes with clear reasons, fostering accountability and understanding.



Public Sector Focus

Designed specifically to meet the unique challenges and requirements of public governance use cases.

Transforming Public Service Delivery

- Faster grievance resolution directly leads to enhanced citizen satisfaction and trust in governance.
- Ensures urgent public safety issues are immediately identified and addressed, potentially saving lives.
- Significantly reduces the manual workload for government authorities, freeing up resources for other critical tasks.



Robust Foundation for Intelligent Grievance Management

Python

The backbone of our core logic, ensuring powerful and efficient processing.

Streamlit

Powers the intuitive and responsive web interface, making it easy for citizens to submit grievances.

Pandas

Crucial for effective data handling and manipulation within the system.

TextBlob

Integrated for accurate and nuanced sentiment analysis of citizen complaints.

Rule-based NLP

The core of our classification and prioritisation engine, ensuring explainable and deterministic outcomes.

Enhancing Public Safety with Smart Prioritisation

Our system's ability to instantly identify and escalate safety-critical complaints ensures that urgent public safety issues receive immediate attention, a vital step towards more secure communities.



A Future of Responsive and Transparent Governance

InnovateX envisions a future where every citizen's voice is heard, and every grievance is addressed with efficiency, transparency, and accountability.



Thank You!

AI-Powered Grievance Redressal System
Team InnovateX

