IBM AI-ML Internship Project

IBM SkillsBuild

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Doing Good in a Better Way

Title: InfraVisionAI: A Predictive Infrastructure Planning & Innovation Index System

Subtitle: TransformingUnderserved Regions Through Smart Infrastructure

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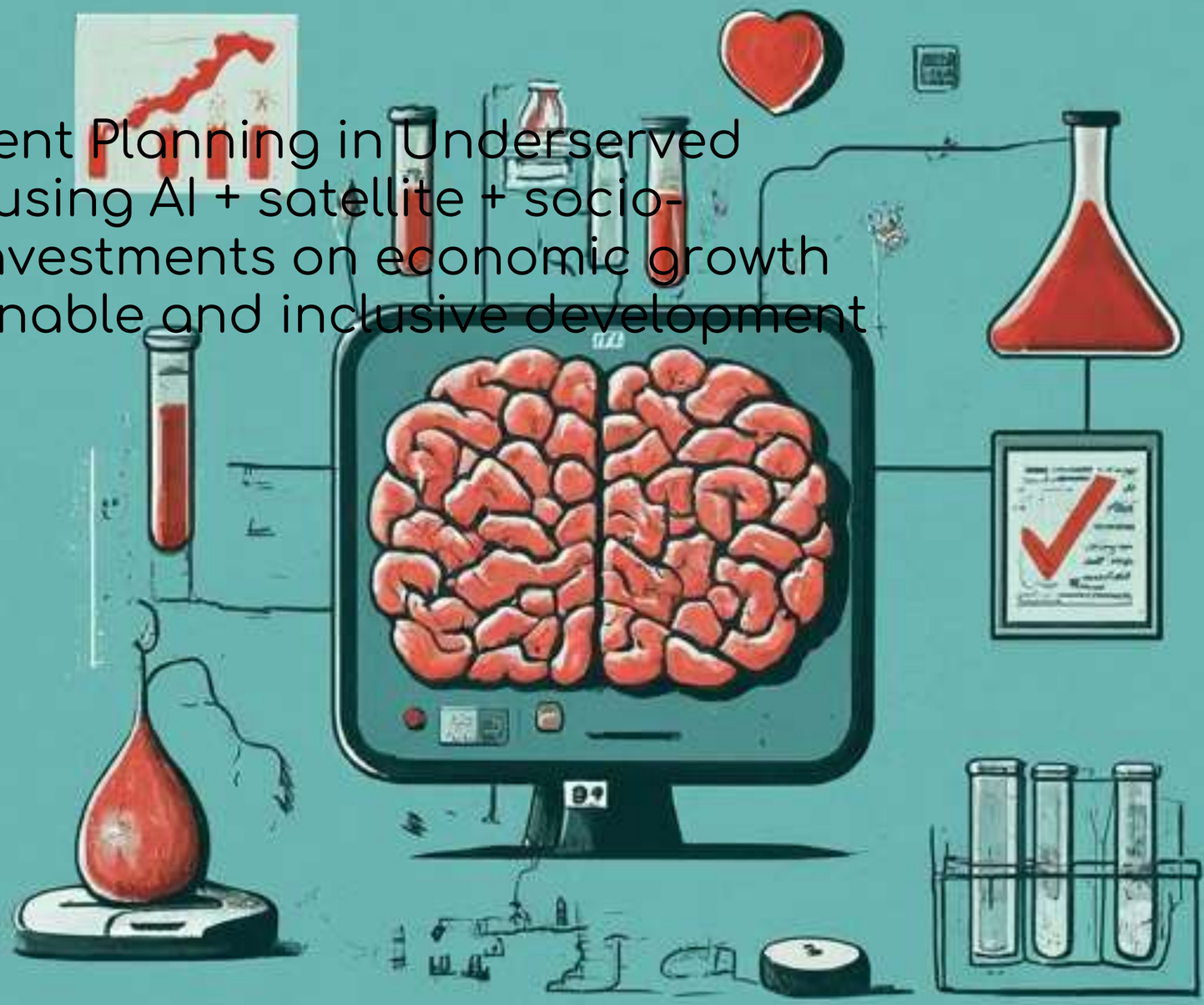
Problem Statement

Many underserved regions lack resilient infrastructure and innovation hubs.Policymakers lack data-driven tools to prioritize investment .
Goal: Build an AI model to help identify where and how to invest for maximum socio-economic and innovation impact.

Problem Focus:

Optimizing Infrastructure Investment Planning in Underserved AreasIdentify infrastructure gaps using AI + satellite + socio-economic dataPredict impact of investments on economic growth and innovationRecommend sustainable and inclusive development paths

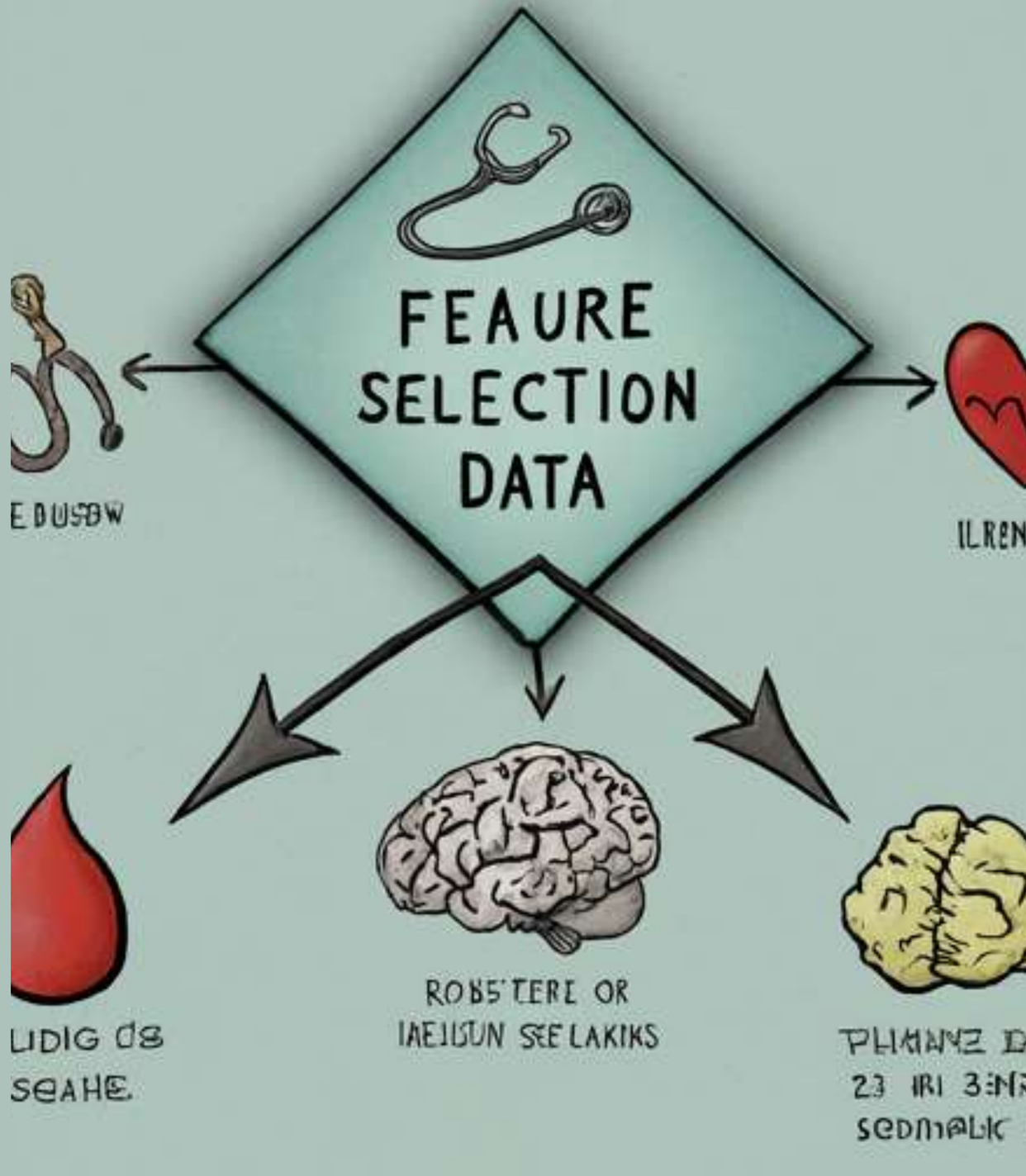


Unique Value Proposition:

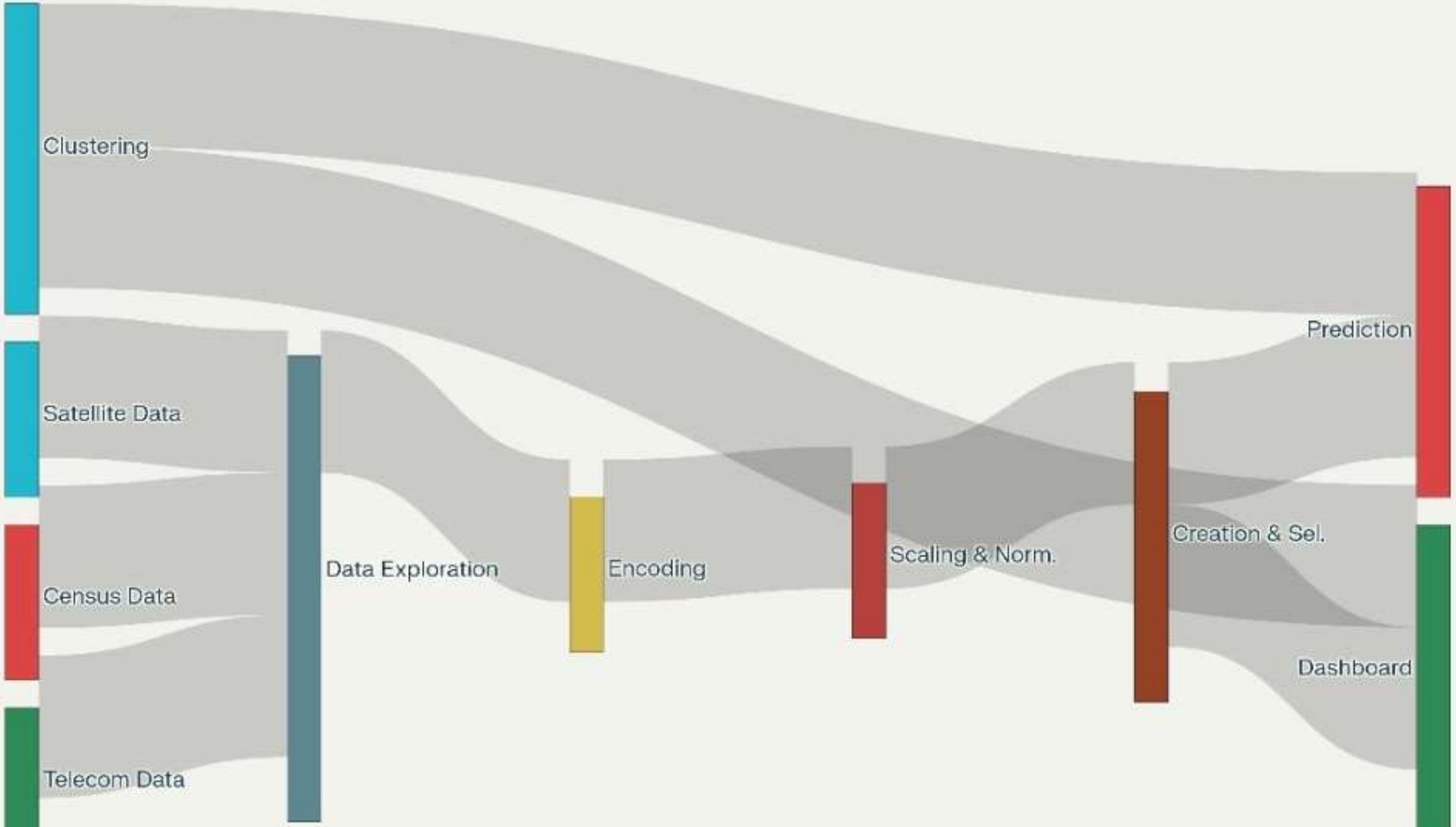
- **AI + Satellite Data Fusion: Not just reports—real-time visibility using satellite data & computer vision.**
- **Innovation Scoring System: Most tools ignore innovation capacity. Your model can help identify potential “mini Silicon Valleys” in remote areas.**
- **Sustainability Integrated: Investment recommendations factor in environmental and social impact.**
- **Open Access Dashboard: Visual, transparent, and interactive—unlike static reports.**
- **Scalable to any country/region with available data.**

Ai/Ml approach

1. Geo-spatial clustering to identify underserved regions.
2. Predictive modeling for upliftment potential
3. Innovation potential index calculation
4. Recommender system for optimal investment type
5. Integration of sustainable Metrics

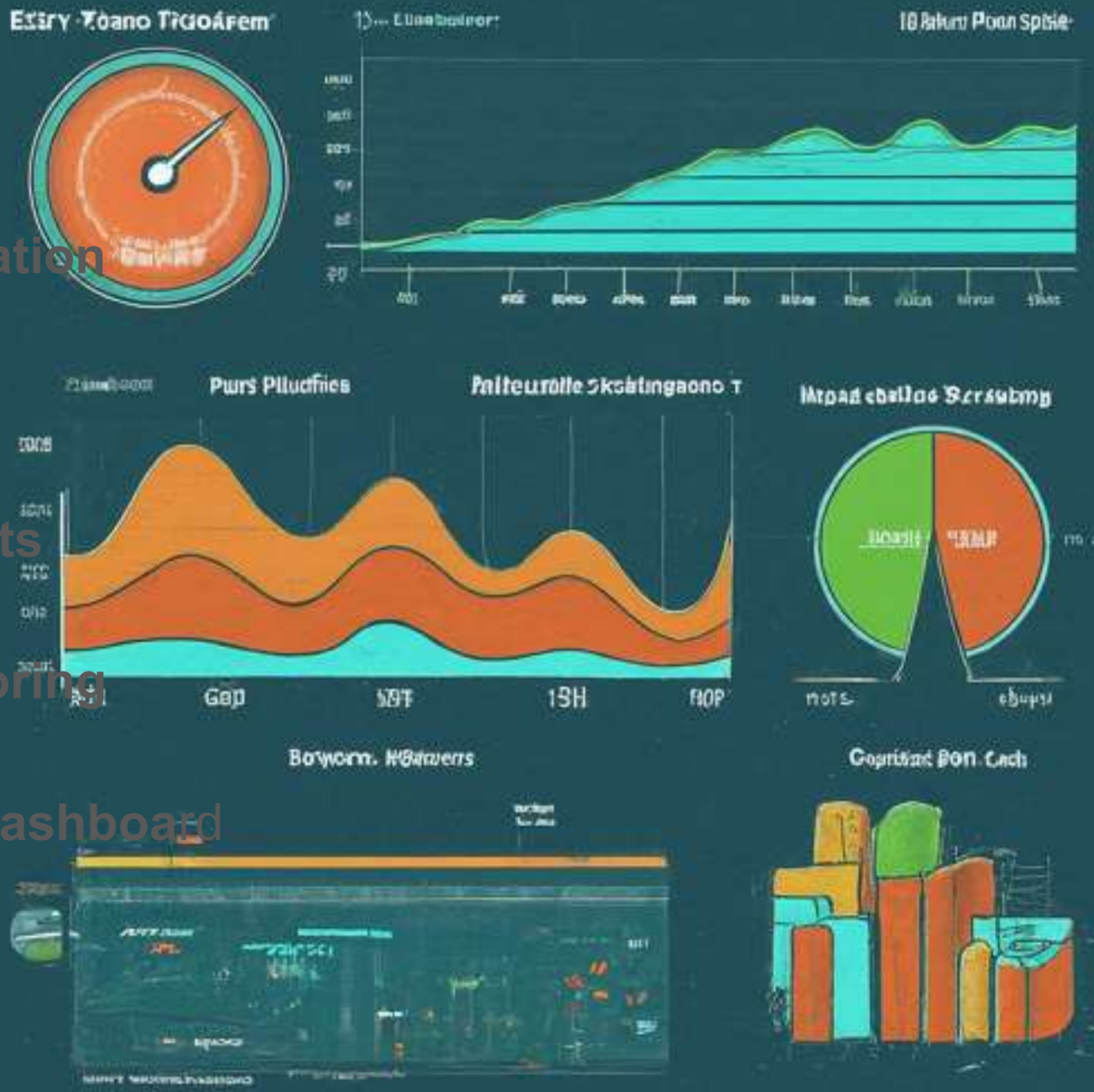


Analytics Pipeline Flow



Key Features

- Infra Gap Detection & Visualization
- Innovation Scoring per region
- Impact Forecast for investments
- Sustainability & Resilience scoring
- Interactive Policy Simulation dashboard



Proof of Concept demo

Simple clustering of sample regions by infrastructure access

Innovation index calculation

Predicted upliftment potential using ML regression

Visualization: scatterplots and score tables

Unique value and impact

Combines AI, satellite data, and socio-economic indicators uniquely

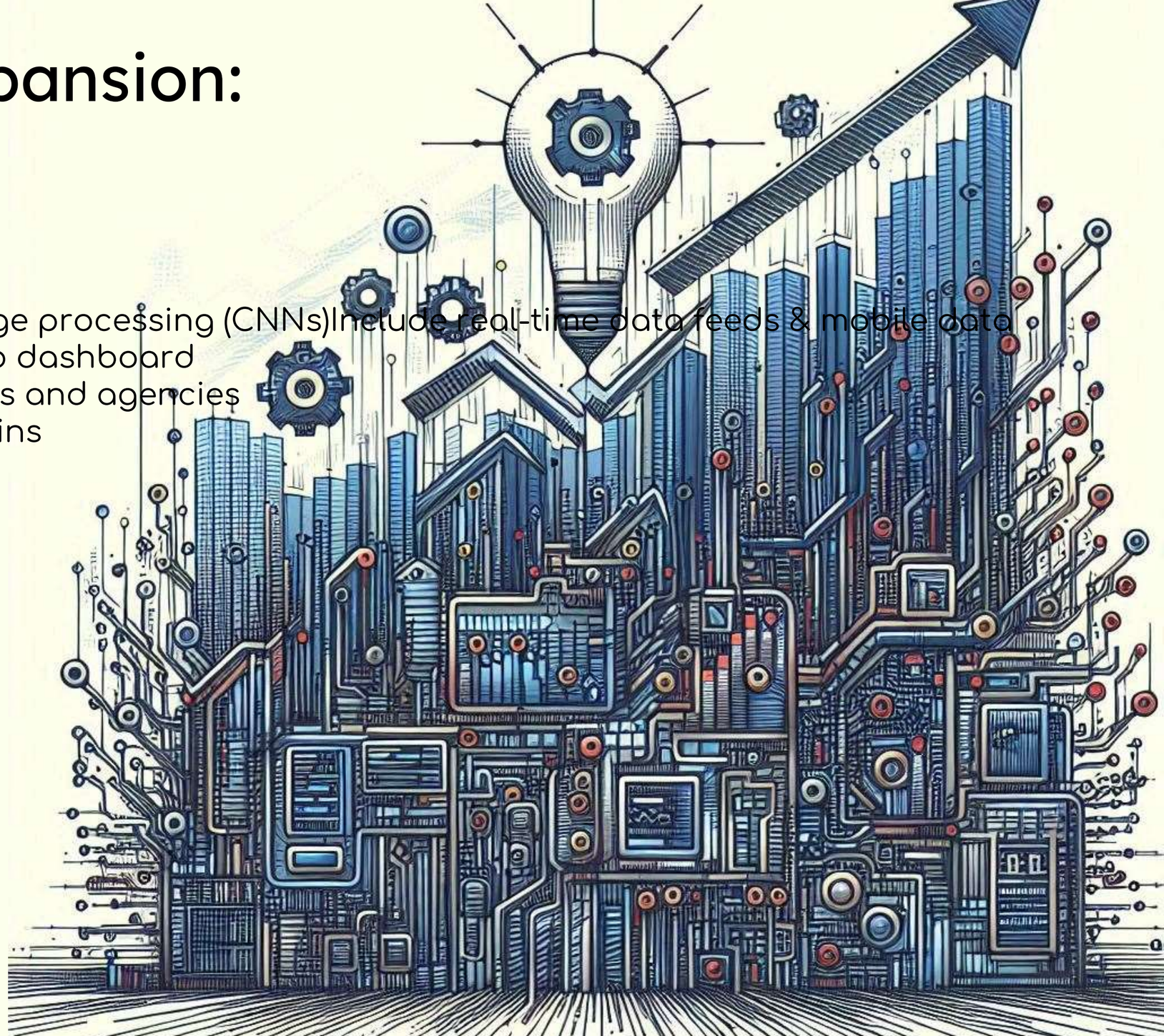
Focuses on innovation readiness alongside infrastructure

Prioritizes sustainability & inclusiveness

Supports transparent and data-driven policymaking

Future work and expansion:

- Integrate real satellite image processing (CNNs)Include real-time data feeds & mobile data
- Develop full interactive web dashboard
- Pilot with local governments and agencies
- Extend to other SDG domains



Conclusion:

Summary:

- Developed a predictive model for AI-Powered Infrastructure & Innovation Planning detection using machine learning.
- Utilized IBM Cloud & Watson Studio for implementation.

Future Work:

- Continuous updates and validation with new data.
- Addressing any emerging ethical and practical challenges.