The Digital Twin Waste Ecosystem

A Technical Framework for SB 1383 Compliance & Methane Mitigation

1. Executive Summary

Cancan utilizes an Edge Server Node architecture to bridge the gap between biological recovery and Artificial Intelligence. By generating cryptographically sealed Digital Twins of organic debris, we provide 50-year liability forecasts and immediate recovery pathways via BSF bioreactors.

2. AI & Vision Taxonomy

Our system employs a Hybrid YOLOv12 + Vision Transformer (ViT) model for granular material identification. This allows for 'Hyperspectral Fingerprinting,' ensuring that high-value cellulose and nitrogen-rich organics are diverted with 98% accuracy.

3. Temporal Liability (The 50-Year Forecast)

Every capture event includes a predictive state model. We forecast the material's chemical state in 10, 25, and 50 years, calculating the environmental impact score based on soil enrichment versus landfill methane production.

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