AI System Health Monitor

Automated Metric Analysis & Real-Time Detection

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The Problem

- **Accessibility:**
  Monitoring data is fragmented and hard to understand
- **Complexity:**
  No clear "birds-eye view" without manual oversight
- **High Financial Risk:**
  Failures detected after crashes → revenue loss

The Solution

- **Automated Pulling:**
  AI pulls data from metric sources (e.g., DataDog)
- **Instant Detection:**
  Neural network identifies issues in real-time
- **Unified Interface:**
  Java-based engine for training + monitoring

Key Features

PY Log Generator

- Simulates high-contrast system behavior
- Uses **"Jump" Function** for clear classification

AI Cleaner Script

- Cleans and normalizes raw logs
- Scales data to **(0.0 → 1.0)**

JS API (Mock Data)

- Node.js / Express server
- Serves metrics via HTTP
- Simulates real-world API interaction

Proof of Concept (PoC)

- **DecisionPlotter:**
  Visualizes system behavior clusters in 2D
- **Goal:**
  Ensure data is separable
- **Target:**
  Validate >70% classification accuracy

Java-Based AI & CMD Interface

The Brain

- Custom Multi-Layer Perceptron (MLP)
- Built from scratch in Java
- No external libraries

CMD Interface

- **Hosting:** Real-time monitoring
- **Training:** Live Backpropagation updates

Requirements

- Real-time system health classification
- Immediate issue detection
- Reduced financial risk
- Lightweight, production-ready monitoring
- Detection Accuracy > 70%