AI Stock Oracle – Full Specification

Executive Summary

AI Stock Oracle is a high-fidelity intelligence system engineered to detect under-the-radar companies riding the explosive infrastructure demand caused by AI, power, and water sector growth. Unlike basic monitoring tools focusing only on major contractors (racks, HVAC, fiber), the Oracle maps the entire supply web, from core vendors down to the tiniest, often-ignored suppliers — screws, T-shirts, security systems, cafeteria contracts — that show correlated growth signals alongside macro-level sector activity.

Core Mission

To detect critical and obscure suppliers before public markets recognize their proximity to the AI infrastructure gold rush.

System Objectives

Wide and Deep Signal Capture, Entity Extraction and Relation Mapping, Growth Synchronization Triggering, Risk-Tiered Reporting, Real-time Alerting and Deep Profiling

Data Sources

Federal RFPs (SAM.gov, DOE, DoD), State RFP Portals (Cal eProcure, Texas SmartBuy, local agencies), Regional News (NewsAPI, regional RSS feeds, local media scrapers), Social Media & Forums (Reddit, Twitter, LinkedIn, industry Discords), Trade Publications, Hiring Trends, Utility Filings, Leasing Activity

Entity Recognition and Signal Extraction

Using spaCy, Legal-BERT, and OpenIE for extraction of companies, products, project data, awards, and hiring patterns from all input streams.

Growth Synchronization Algorithm

Track AI, Power, Water company growth curves separately. For every supplier, calculate Rolling Growth Index based on hiring, mentions, leasing, contracts. Compute correlation (Pearson r) against the Big 3. If correlation exceeds 0.8 = Trigger.

Risk Tier Classification

Low Risk: Major known suppliers. Medium Risk: Known secondary vendors. High Risk: Tiny local companies with indirect signs of growth (e.g., uniforms, food, tools).

Research & Dossier Compilation

For every trigger: compile dossier (growth trend, hiring, leasing, contracts, proximity), rank it, and assign Oracle Score. Delivered via dashboard and alerts.

System Architecture (Described)

Data Sources → Ingestion → Processing Queue → NLP Engine → Growth Sync Engine → Scoring Engine → Knowledge Store → Frontend/API/Alerts.

Example Walkthrough

Amazon AI Campus → Local permit for glass supplier → Hiring surge → Reddit chatter → Correlation exceeds threshold → Marked Tier 3 → Alert sent → A month later, supplier confirmed on subcontract.

Tech Stack

Ingestion: Python, Airflow | Storage: S3, PostgreSQL, Elasticsearch, Neo4j | NLP: spaCy, Legal-BERT | Correlation: NumPy, scikit-learn | Frontend: React | Backend: FastAPI | Alerts: SendGrid, Twilio

Rollout Plan

Phase 1 (0–3 mo): MVP | Phase 2 (3–6 mo): State + Legal-BERT | Phase 3 (6–9 mo): Graph Linking | Phase 4 (9–12 mo): Full Scoring + Tiers | Phase 5: API + Enterprise

Subscription Model

Basic ($99/mo): Tier 1 picks + digest | Pro ($499/mo): Dashboard + Tier 2 | Enterprise ($5K+/mo): Full access, Tier 3, API, alerts, dossiers

Secret Sauce

Rather than focusing on contract winners, AI Stock Oracle monitors correlated growth in obscure suppliers when AI, Power, and Water signals spike in unison. These companies become early indicators of infrastructure expansion before market awareness.

Summary

The AI Stock Oracle is the definitive radar for hidden AI infrastructure growth. Not just detecting the servers and cooling units, but the chairs, glass, helmets, and food — every piece of the puzzle. Predictive, wide-reaching, and risk-adjustable.