



CASE STUDY

Niveza End-to-End Solution



Index

3	___	Project Overview
3	___	Executive Summary
4	___	Business Challenge (Before Niveza)
5	___	The Solution: Niveza's Equity Research Recommendation Engine
		1. Fundamental Analysis
		2. Technical Analysis
		3. News & Sentiment Analysis (GenAI-Powered – In Development)
7	___	Tech Stack



Project Overview

Industry: Fintech

Initiatives: Equity Research Automation, Predictive Analytics, Behavioral Finance Modeling, GenAI, Financial Forecasting, Technical Signal Integration, Investment Strategy Optimization

Solution: Turnkey Solution, AI-Powered Equity Research Platform, Cloud-Hosted Web Application,

Roles: Front-end Developer, Back-end Developer, Machine Learning Engineer, QA Engineer

Executive Summary

Niveza is an AI-powered Equity Research Recommendation Engine designed to help Indian investors identify high-potential stocks through a rigorous, data-driven approach. Grounded in investment philosophies like value investing and GARP (Growth at Reasonable Price), the platform intelligently blends fundamental analysis, technical signals, and macroeconomic/sentiment insights to produce forward-looking, actionable recommendations.

Before Niveza, most investors; especially in India's retail and advisory space, relied on fragmented tools, manual research, or speculative social media signals to guide their decisions.

With Niveza, they now gain institutional-grade analysis powered by predictive analytics, Generative AI, and a unified scoring engine that reflects both company performance and real-world macro shifts.

The name Niveza, derived from Sanskrit for “investment,” reflects the platform's mission to democratize sophisticated equity research for Indian markets. Designed for clarity, cultural relevance, and performance, Niveza transforms how everyday investors evaluate opportunities—bringing structure, speed, and smarter signal extraction to the decision-making process.



Impressive Results

Success Ratio
>85%
vs.
for Professional Analyst
~70%

80%
Time savings for
Research Analyst

Significant reduction
in Drawdown
Risk Ratio

Business Challenge (Before Niveza)

Indian investors; particularly in fast-growing retail segments, face a range of systemic challenges:

- **Data Overload & Complexity:** Analyzing thousands of publicly listed companies using siloed financial reports, inconsistent forecasts, and raw news feeds is manual, error-prone, and slow.
- **Cognitive Bias & Market Hype:** Many retail investors fall prey to hype cycles, social sentiment, or fear-based decisions—rather than data-driven fundamentals.
- **Fragmented Tooling:** Available platforms often focus on one signal—charts or balance sheets—but fail to integrate insights across fundamentals, technicals, and macroeconomics.
- **Unpredictable Global Impact:** Geopolitical events (e.g., tariffs, elections, wars) can materially shift market direction—yet most tools lack sentiment-aware models to adjust in real time.



The Solution: Niveza's Equity Research Recommendation Engine

To address the challenges faced by modern investors, Niveza employs a three-pillar AI architecture that blends structured financial analysis, market behavior signals, and unstructured macroeconomic intelligence. Each pillar contributes to a composite score that drives equity recommendations, designed to optimize value, timing, and risk awareness.

1. Fundamental Analysis

Powered by a GARP-based scoring model

Goal: Identify companies that are undervalued relative to intrinsic value and future earnings potential, applying the Growth at a Reasonable Price (GARP) methodology.

Operational Insight:

- Aggregates structured financial data (P&L, balance sheets, and cash flow statements) from public companies via trusted data providers.
- Applies a proprietary scoring model that evaluates both historical performance and management-issued forward guidance (1–3 year revenue and profit forecasts).
- Assesses valuation multiples (e.g., P/E, P/B), earnings growth, debt ratios, and capital efficiency to isolate stocks trading below intrinsic value but positioned for future growth.

Behavioral Finance Context:

- Market pricing often diverges from true value due to irrational sentiment, media influence, or short-term noise. Niveza's engine is designed to uncover opportunities before broader market consensus forms, leveraging historical signals of mispricing rooted in investor behavior.
- The platform recognizes that for every seller, there's a buyer—and seeks to be early on the buy side of fundamentally sound, undervalued stocks that are temporarily misjudged by the market.

Key Outputs:

- Company-specific valuation and GARP scores
- Forward-looking growth potential indicators
- Undervalued opportunity flags based on historical vs. projected performance



2. TechnicalAnalysis

Powered by momentum-modeling and pattern recognition

Goal: Enhance trade timing and price-entry accuracy by identifying patterns in market behavior, sentiment shifts, and trend momentum.

Operational Insight:

- Ingests real-time and historical stock price data to model support/resistance levels, moving averages, volatility, and trend breakouts.
- Uses rule-based algorithms and momentum-based classifiers to flag technically favorable setups (e.g., breakout confirmation, RSI divergence).
- Complements the fundamental score by guiding when to enter or exit a position based on market dynamics.

Key Outputs:

- Buy/sell timing recommendations layered over fundamentally strong stocks
- Technical signal overlays (momentum, volume anomalies, RSI triggers)
- Risk-adjusted confidence scores for near-term movement



3. News & Sentiment Analysis (GenAI-Powered – In Development)

Powered by GenAI-based macro risk scoring

Goal: Contextualize investment decisions using real-time geopolitical, macroeconomic, and company-specific news to account for external risk and opportunity.

Operational Insight:

- Uses LLM-powered NLP to ingest and interpret headlines, financial news, social sentiment, and political developments.
- Classifies events by sentiment polarity, intensity, and sectoral impact using a custom taxonomy mapped to Niveza's equity universe.
- Computes a macro risk/reward adjustment factor that modifies stock scores based on projected impact and confidence levels.

Key Outputs (Planned):

- Event-driven sentiment scores at sector, industry, and company levels
- Macro factor impact models to adjust stock recommendations in real time
- Scenario-based what-if risk simulations to inform defensive/offensive positioning

Tech Stack

- Python
- Predictive AI Models
- GenAI
- ReactJS & NextJS
- FastAPI
- AWS Bedrock
- AWS Sagemaker

Contact Us

athenaworks.com

