Heightss Case study

About Heightss

Heightss is a fintech startup building the Language of Investing, a unified platform where users can access various financial products, including crypto, Indian stocks, mutual funds, bonds, and commodities, through a conversational interface.

Powered by dual large language models (LLMs) trained on LangChain and LangGraph, Heightss' AI copilot is designed to think with users, not trade for them.

With a focus on delivering tailored Large Language Models (LLMs) and secure AI solutions, Heightss is committed to data privacy, sovereignty, and environmental sustainability.

The problem

Before partnering with Civo, Heightss faced several challenges that hindered their operations and growth. Specifically, they struggled with:

- Unpredictable cloud costs due to usage-based pricing models, which made it difficult to forecast expenses and budget for infrastructure.
- Complex infrastructure management, which diverted resources away from core AI innovation and towards managing complex clusters like EKS or GKE.
- Data privacy and compliance concerns, necessitating a cloud platform that met stringent regulatory requirements to ensure client trust and compliance.

As a bootstrapped fintech startup, Heightss needed to find a cloud provider that could meet their unique requirements. They required a solution that would allow them to run persistent workloads, including their PostgreSQL database and AI inference containers, at a fixed, transparent cost, without being penalized for high uptime or traffic spikes.

Objectives

Heightss aimed to achieve three key objectives:

Predictable cost scaling for AI & data workloads
Heightss needed a provider that offered transparent, fixed pricing for persistent workloads, including PostgreSQL databases and AI inference containers, to avoid unpredictable costs associated with usage-based pricing models.

Full infrastructure control without DevOps complexity
The company required a "developer-first" Kubernetes solution that enabled rapid cluster deployment and easy management, allowing them to focus on product development rather than infrastructure debugging.

Low-latency performance for real-time financial data
To support their retail investment platform, Heightss needed a cloud environment that provided native support for persistent connections (WebSockets) and high-performance I/O for their database, ensuring fast data updates for their users.
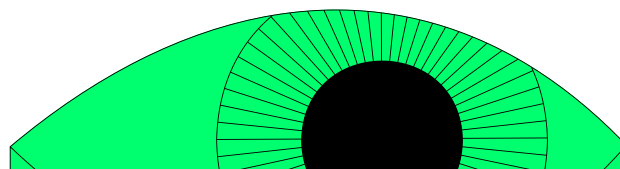
How Civo helped

Civo's cloud infrastructure has been instrumental in transforming Heightss' operations, enabling them to achieve their key objectives.

By addressing their challenges, Civo has helped Heightss simplify their infrastructure management, reduce costs, and improve performance.

Predictable cost scaling for AI & data workloads:
Civo's transparent pricing model eliminated billing anxiety, with zero egress fees and fixed node pricing reducing monthly infrastructure spend by approximately 40%. Additionally, Civo's affordable GPU pricing enabled Heightss to run custom AI models at a fraction of the cost of hyperscalers.

Full infrastructure control without DevOps complexity:
Civo's managed Kubernetes solution bridged the gap between ease of use and powerful infrastructure control. Heightss can now launch production-ready K3s clusters in under 90 seconds, and the managed control plane handles upgrades and master node management, freeing up the team to focus on writing code.

Low-latency performance for real-time financial data:
By hosting their own containers on Civo, Heightss achieved the raw performance needed for their trading and investment platform. They established persistent WebSocket connections for live stock pricing and reduced query times for user portfolio dashboards by running their PostgreSQL instance in the same cluster as their application.

The partnership with Civo has been a game-changer for Heightss, enabling them to achieve a delicate balance between speed and robustness. This is a crucial aspect of their business, as they strive to deliver a seamless and responsive experience to their users.

"In fintech, you usually have to choose between moving fast (serverless) or being robust (enterprise cloud). Civo allows us to do both. We can deploy new AI models and microservices in minutes using their rapid cluster launch times, while their managed infrastructure ensures the high availability required for financial transactions." - Laven Patel - Founder & CEO at Heightss

This combination of speed and stability has allowed the engineering team to shift focus away from infrastructure troubleshooting and toward product innovation. "This operational agility means we spend 90% of our engineering time on our core trading algorithms and only 10% on DevOps, a massive competitive advantage for a lean startup team." With reduced operational burden and predictable platform management, Heightss has also gained greater cost certainty as the business scales.

"Previously, we relied on Vercel for frontend and AWS Lambda for backend tasks. While convenient for prototyping, costs spiraled as our user base grew. Moving to Civo's fixed-node Kubernetes pricing dropped our monthly infrastructure bill by ~70%. We now pay for raw compute capacity, not for every API call or gigabyte of data transferred. This predictability is vital for a bootstrapped startup." - Uttkarsh Patel - Co - Founder & CTO at Heightss

Together, these changes have given Heightss a stable, scalable cloud foundation, enabling the team to operate leanly, control costs, and deliver a fast, reliable platform for their users.

Products and tools utilized

Object Store

▶ Heightss uses Civo's Object Store to securely and privately store curated domain documents and reference data, which is used to train their AI models.

▶ The Object Store provides a scalable and efficient solution for storing large amounts of data, allowing Heightss to focus on developing their AI capabilities.

Kubernetes

▶ Heightss uses Civo's managed Kubernetes solution to orchestrate a complex ecosystem of autonomous financial agents, enabling them to deploy new AI models and microservices in minutes.

▶ Civo's Kubernetes solution provides Heightss with a "developer-first" experience, allowing them to launch production-ready K3s clusters in under 90 seconds and manage them easily.

▶ The managed control plane handles upgrades and master node management, freeing up Heightss' team to focus on writing code rather than managing infrastructure.
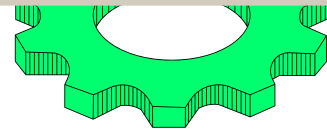
Database

▶ Heightss hosts their primary PostgreSQL database directly on Civo, collocated with their application logic, to reduce latency and improve performance.

▶ Civo's Database as a Service provides Heightss with a scalable and efficient solution for managing their critical data.

Compute

▶ Heightss uses Civo's Compute services to run their AI models and microservices, taking advantage of Civo's affordable GPU pricing to train custom models.

Networking

▶ Heightss uses Civo's Networking services to establish persistent WebSocket connections for live stock pricing, enabling them to deliver real-time updates to their users.

▶ Civo's Networking services provide Heightss with a high-performance and low-latency solution for managing their network traffic.
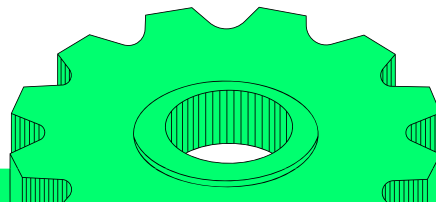
What's next for this partnership?

As Heightss continues to grow and expand its services in India, the partnership with Civo is expected to play an increasingly critical role, with Civo's India sovereign cloud providing a foundation for scalable, secure, and compliant operations. With a strong foundation established, Heightss is poised to take its business to the next level, and Civo is well-positioned to support this growth.

Heightss has several exciting projects and initiatives on the horizon, including the development of a mobile trading app and the securing of a stock brokerage license. This will enable Heightss to provide a seamless and responsive experience to its users, while maintaining the high standards of reliability and performance that they expect.

As Heightss' user base continues to grow, the company plans to scale its AI infrastructure on Civo from dozens of agents to thousands. With Civo's newest GPU offerings, Heightss is excited to test the limits of its AI capabilities, training larger, domain-specific models that can understand complex regulatory filings and macroeconomic trends in real-time.

Pratham Patel

Heightss
Co-founder

"We see Civo as the backbone of this expansion. As we move into transaction handling, we will leverage Civo's high-availability clusters to ensure our mobile app delivers institutional-grade reliability and security for every trade."