

## Case Study

# VIANET

### INDUSTRY

High Tech

### USE CASE

Graph-centered AppDev,  
Graph Data Science

### GOAL

Create a platform to manage fraud and bad actors for web properties, significantly decreasing effort for owners and increasing end-user satisfaction in the process.

### CHALLENGE

Since nothing like this exists today, the challenge was to create a platform that can scale across N properties, successfully identifying key patterns and connectedness around fraud and bad actors.

### SOLUTION

Build out the platform with the required functionality, leveraging graph database (Neo4j) at the core to support required analysis and other capabilities.

### RESULTS

– The Captain is now a scalable, multi-property fraud and bad actor detection platform.  
-It leverages the inherent connectedness of graphs for analysis, enabling graph data science for fraud detection.

## Vianet Management

### High Tech Firm Uses Graph Database & Graph Data Science to Create Fraud & Bad Actor Platform

*Vianet sought to create a graph-centered platform called “The Captain” that employs graph database, graph data science / machine learning (ML) and leverages the power of graph in general to manage the highly connected user and user behavior data that underlies their various web properties, for the purpose of increasing the quality of user experience by decreasing and eliminating unhelpful or even fraudulent patterns of behavior that can impact valid users.*

### The Company

The Vianet Management team are experts in digital product/platform design and management, digital back office services, and related venture investment. They are responsible for a set of very successful web properties including Roomates.com, Puppies.com and others, essentially connecting people to specific things they want or need, by connecting them to other people who are offering those things.

In the process of creating a series of these successful ventures, they have become deep experts in the real fraud and other related challenges facing web properties in today’s context. This expertise has been systematized in The Captain platform which will be available as a SaaS service in the near future.

Vianet’s success overall has enabled them to invest in and build a portfolio of other successful web-properties, all able to benefit from the skills and technology aggregated over decades of learning.

### The Challenge

The reality for web-properties that rely on users and user interaction across their platforms carries with it inherent challenges in that bad actors see unique opportunity whether it be by hacking sites themselves, through impersonation or by many other creative means.

The size of the problem is massive and growing quickly. According to Javelin Strategy & Research, [consumers lost more than \\$56 Billion](#) through identity fraud schemes in 2020, and fraud schemes are growing at an alarming rate. According to TransUnion, [digital fraud attempts are up 150%](#) in the first four months of 2021 versus the previous four months.

At the same time, data volumes are exploding and when combined, this creates a perfect storm of risk for web properties and their users. To make matters more difficult, the available technology options have not kept pace with all these changes, so owners and managers are left with an almost untenable problem.

The goal for Vianet was to take all of their deep domain expertise in managing this risk and build that into a platform that is scalable and able to capture both the current expertise, as well as to easily codify and monitor emerging threats as well. By taking their domain expertise and IP, and combining it with graph-database technologies and graph data science techniques, including powerful and cutting-edge machine learning, they were able to move far beyond the inadequate technology options available today with a solution that can scale far into the future.

## Case Study



*“Particularly for web properties that center on users and user interaction, managing the problem of bad actors and related fraud is now solved using The Captain.”*

—Jeff Steinport  
COO & CLO, Vianet

### The Solution

Having worked with a previous solution provider that was unable to deliver a scalable graph solution, Vianet turned to the Graphable team in what has led to a long and fruitful partnership. The particular combination of Graphable’s skills around graph-centered AppDev and graph data science makes the relationship a great fit, particularly with Vianet’s unique need for highly connected graph capabilities and analysis.

Graphable AppDev and data science teams conducted a series of brainstorming and architecture sessions to capture the breadth of capabilities required for The Captain, with a focus on personas and the required capabilities to enable them in their roles.

In a series of iteratively advancing engagements and a highly cooperative process, the initial platform architecture and MVP emerged, evolving further and further to include deep graph-based machine learning that is now operating 24x7 and surfacing and alerting analysts as potential bad actors and fraudulent patterns emerge.

This process highlighted an exceptionally strong partnership, but also Vianet’s deep domain expertise, as well as Graphable’s expertise related to graph database and graph data science. It also highlighted the value of integrating domain expertise with emerging technologies.

### The Results

The result is a highly performant and usable system that is in production already utilizing its multi-platform capability. It radically decreases the level of effort and time to manage this ever-more critical aspect of a web-property, while at the same time significantly increasing overall user satisfaction by reducing real and potential bad actor interactions.

This monumental challenge facing web-property owners and managers is growing in importance and at a pace that requires not a series of patches or an old solution or approach, but rather a new way of thinking, and brand-new approaches. Having effectively solved this problem for themselves, Jeff Steinport, COO, Vianet stated, *“Particularly for web properties that center on users and user interaction, managing the problem of bad actors and related fraud is now solved using The Captain.”*

As Google, one of the true thought-leaders in data science pointed out, [the future of data science and AI will be built around graph and related network technologies](#). Kyle McNamara, CEO, Graphable commented, *“The use cases around driving value from graph data science are more and more centered on this idea of the ‘Knowledge Graph’ at the center, where organizations can leverage the combined body of knowledge for a particular domain or problem area— storing both structured and unstructured data— driving outcomes not previously possible, by using modern graph-centered AppDev, ML, NLP and related analytics techniques and approaches. The Captain is a perfect example of the value in this industry evolution.”*

The Captain is part of a rapidly increasing set of examples where putting graph database at the core is enabling the successful use cases of today and tomorrow.

Graphable delivers insightful Neo4j graph database, machine learning, and natural language processing as well as Domo analytics with measurable impact. We are known for operating ethically, communicating well, and delivering on-time. With hundreds of successful projects across most industries, we specialize in FinServ, BioTech, Government, Healthcare, and Media. Thriving in the most challenging data integration and data science contexts, Graphable drives your data science and analytics success. Find out more at [graphable.ai](http://graphable.ai)

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