Case Study

Limbik

High Tech Security Firm Limbik Uses GraphAware Hume & Neo4j Graph Database to Create Information Defense System

INDUSTRY
High Tech, Security

USE CASE
Predictive and proactive information defense assessment and response system

GOAL
Create a graph-centered platform to proactively defend against information manipulation, including misinformation and disinformation.

CHALLENGE
Until Hume with Neo4j, the available options for effectively building and managing scalable information assessment pipelines were incomplete- specifically for graph-centric use cases like Limbik.

SOLUTION
Leverage the graph-centric GraphAware Hume platform / Orchestra ETL on the Neo4j graph database to create the industry-leading Limbik system.

RESULTS
– Limbik is now a scalable, information defense and predictive/proactive response platform.
– It leverages the inherent connectedness of graphs for analysis, enabling graph data science for AI / NLP on unstructured data.

Limbik is an AI-powered system that surfaces potentially impactful mis- and disinformation activities and informs effective response options. Unlike other technologies and consultative services that are purely reactionary, Limbik utilizes proprietary predictive analytics to enable customers to proactively mitigate the scale and speed of today's information threats.

The Company

A team of experts in security and information assessment, Limbik created the industry's first predictive and proactive Information Defense System. Their expertise has been systematized in the Limbik platform, enabling organizations to not only understand threats and their relevant information landscape, but also be prompted to respond to unfolding threats—in time to make a difference.

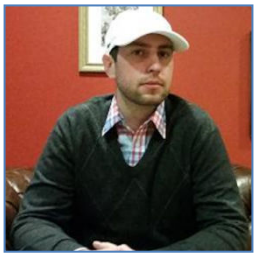
The Challenge

Information manipulation and how to defend against it is a critical dimension of operating in today's information landscape. Whether it be misinformation (*incorrect or misleading information*) or disinformation (*deliberately deceptive information*) through impersonation, deepfakes of various kinds, fake content sites and so on, the problem is massive and growing.

Experts agree that the threat is significant. The World Economic Forum, for example, ranks the spread of misinformation and fake news as one of the world's top global risks. Additionally, University of Baltimore Professor and Information Systems expert, Roberto Cavazos, conducted a commissioned study entitled *Introduction to the Economic Cost of Bad Actors on the Internet* to quantify the size of this problem, primarily in terms of economic impact, in order to truly understand the full scale of "internet harm" as he terms it. The stated goals of the study include "*To measure the global economic price paid by businesses and society due to problems including ad fraud, online bullying, and fake news… in the form of both direct and indirect costs.*" Cavazos' conservatively tallied the total direct costs alone at $78 billion, just by 2019. That includes nearly $10 billion annually in brand equity and reputation management costs. To make matters even more challenging, the technology options available to combat this issue have not kept pace with the problem, so organizations are left wondering how to protect themselves.

In creating the Information Defense System, Limbik's goal was to take their deep domain expertise in security and information assessment, as well as reputation management, and build that into a scalable Artificial Intelligence (AI) platform. The current solutions simply identify threats, but Limbik employs cutting-edge AI to predict threats and recommend response options. By combining their domain expertise and IP, together with graph-database technologies and graph data science techniques, including powerful new techniques in machine learning, Limbik is moving far beyond the inadequate technology options available today—with a solution that can scale for their customers as threats evolve.

Case Study



"A *predictive and proactive response paradigm to manage misinformation and disinformation threats is really the only hope for organizations— even countries— to counter this truly destabilizing trend. This is why we created Limbik.*"

– Zach Schwitzky
Co-founder & CEO, Limbik

The Solution

Paramount to deploying their predictive analytics, Limbik needed to create a managed information pipeline of structured and unstructured data that also remained scalable. To accomplish this, Limbik turned to the Graphable team in what has led to a strong partnership around both Hume and Neo4j.

By combining the capabilities of the industry-leading Neo4j graph database, and the cutting-edge Hume platform for graph ETL and analytics, with Graphable's unique skills around graph-centered data pipelines and graph data science, Limbik found the perfect fit for their unique requirements for highly connected graph capabilities, ETL, and analysis.

In particular *Hume Orchestra*, a scalable, graph-centric information pipeline management capability for both structured and unstructured data is a pivotal element of the solution. With so many sources, across many different types of incoming data, at high volumes and with the unique Neo4j graph database target, it had to be managed well and at scale by a purpose-built capability only found in the Hume platform.

The Graphable data and graph data science consultant teams initially worked with Limbik experts to craft the optimal approach using Neo4j and Hume in concert. Once in place, the Limbik team successfully took ownership to continue expanding and evolving the solution. This process highlights what has become a productive partnership, bringing together Limbik's deep domain and technical expertise with Graphable's expertise related to graph database and graph data science.

The Results

Limbik's Information Defense System is already making a tangible impact in the market. It significantly decreases time to manage and evolve information assessment pipelines, and it also enables the Limbik team to leverage the latest in data science on graph databases, which is the future of data science. In fact, 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 analytics through ML/NLP".*

The need for organizations to mount information defense is growing in importance and at a pace that requires a new way of thinking, and brand-new approaches. Having effectively solved this for their customers, Zach Schwitzky, CEO, Limbik stated, "A *predictive and proactive response paradigm to manage misinformation and disinformation threats is really the only hope for organizations— even countries—to counter this truly destabilizing trend. This is why we created Limbik.*"

Graphable delivers insightful Hume, 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 BioTech, HighTech, FinServ and Government. 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

Questions about Graphable?

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