Raphtory: deeper network analysis

What happened?

ASG researchers developed an open-source tool to analyse how connections within networks, such as social networks and transport networks, change over time. The tool, Raphtory, is free and finding broad applications within companies and academic research. Spinout Pometry was founded to custom-build implementations for users requiring additional features.

What are the real-world impacts?

- Raphtory rapidly analyses large volumes of network data, for example, tracking transactions through the Bitcoin network's entire 14 year history in just 7 minutes.
- Spinout Pometry raised seed funding of £2.1 million and employs 12 full-time staff.
- Blockchain analysis firms use Pometry's services to gain more accurate information about illegal cryptocurrency transactions, thereby helping companies working with cryptocurrency to comply with financial regulations.
- Pometry is supporting tech start-up nPlan's scheduling of construction industry processes through detailed, data-driven analysis of past construction projects.
- Researchers at Queen Mary University of London used Raphtory to gain novel insights into alt-right social network, Gab.
- A recent case study using Companies House public data from 12,749 companies demonstrates Raphtory's power in detecting fraud and other criminal activities.

Why was the Turing's ASG programme uniquely placed to do this?

- ASG's emphasis on diverse outputs and impacts enabled Raphtory's creators to spend time developing a robust, reliable tool for diverse users without initially needing to tailor it to specific applications or meet short-term publishing goals.
- Raphtory and Pometry benefited from the Turing's expertise in open tools and infrastructure through the predominantly ASG-funded Tools, Practices & Systems Programme, including via its Programme Manager and specialist Research Application Managers (RAMs) and Community Managers.
- RAMs and Community Managers helped to support the long-term sustainability of the project through guidance and peer support, including on engaging with contributors, open-source project governance and stakeholder engagement.
- A Raphtory presentation at the Turing's AI UK event led directly to Pometry acquiring nPlan as a customer, according to Pometry Co-founder & CTO Ben Steer.
- ASG's RAMs are directly approaching organisations in the Turing network to explore how Raphtory could be applied to their datasets.

What's next?

- An ASG-supported Data Study Group planned for 2023 will bring together data scientists from across the Turing network to collaborate on the tool during an intensive fortnight-long 'hackathon'. This will help identify new application areas and partners, as well as providing feedback that can be used to further enhance the tool.

"What we're enabling… companies to do is massively scale-up the analytics they're running, and provide a much clearer and, a lot of times, more accurate answer."

Ben Steer, Co-founder & CTO, Pometry