Related programmes and teams
Tools, practices and systems
AI for science and government (ASG)

A purpose-built tool for tracking how networks evolve

The world has never been more connected, and every day we generate a tsunami of data about our physical and virtual interactions. Tools are increasingly needed to make sense of this data, and a new, Turing-funded analysis tool called **Raphtory** is the first to be built specifically for tracking how networks and connections change over time.

The team behind Raphtory, led by **Richard Clegg** and **Felix Cuadrado**, is already looking into using the software to understand urban transport patterns, spot cryptocurrency fraud and track changes in the meaning of words. In fact, it can be used in any situation where the data can be represented as an evolving network of points connected by lines – what's known as a 'dynamic graph'. Raphtory works by splitting the dynamic graph over multiple computers, increasing the amount of memory for data storage and processing, and the software automatically updates the graph as new data come in.

The researchers have also started to apply Raphtory to social network data. By analysing changes in interactions between users, the software could ultimately help to identify where communities within a social network are becoming more insular, which might be a sign of their views becoming more extreme. Combining this with analysis of the content being posted could provide an automatic way of flagging up any potentially toxic communities.

Read our blog for further info.

"The more time I spend working on dynamic graphs, the more excited I am by their potential. We're hoping that Raphtory will become the go-to tool for their analysis."

Felix Cuadrado
Turing Fellow and computer scientist
Queen Mary University of London