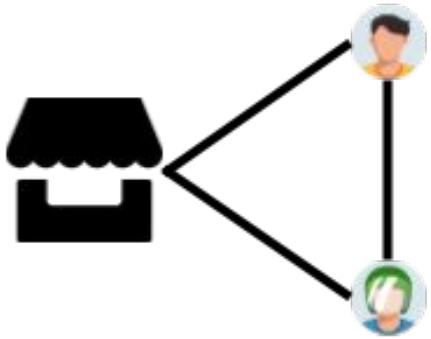
gojek

Leverage Graph Data To Detect Fraud In Real-time

is a leading on-demand platform and a pioneer of the multi-service ecosystem model, with **2 million** registered driver-partners and **900,000** merchants as of Q4 2020 - with a total of more than **190 million** total downloads across Southeast Asia.

Graph Is Suitable For Interaction Intensive Applications



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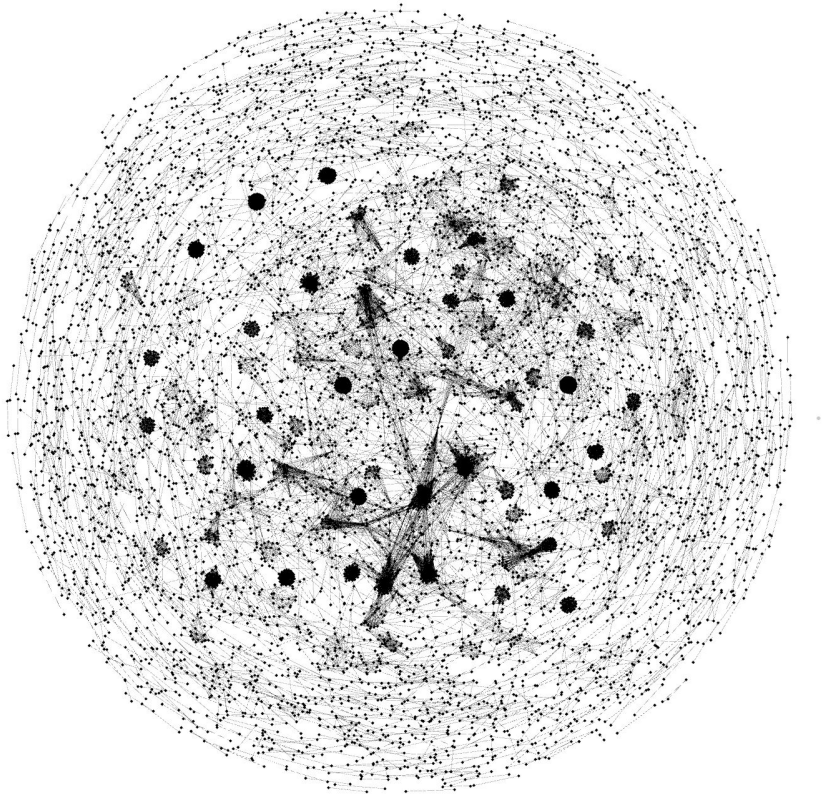
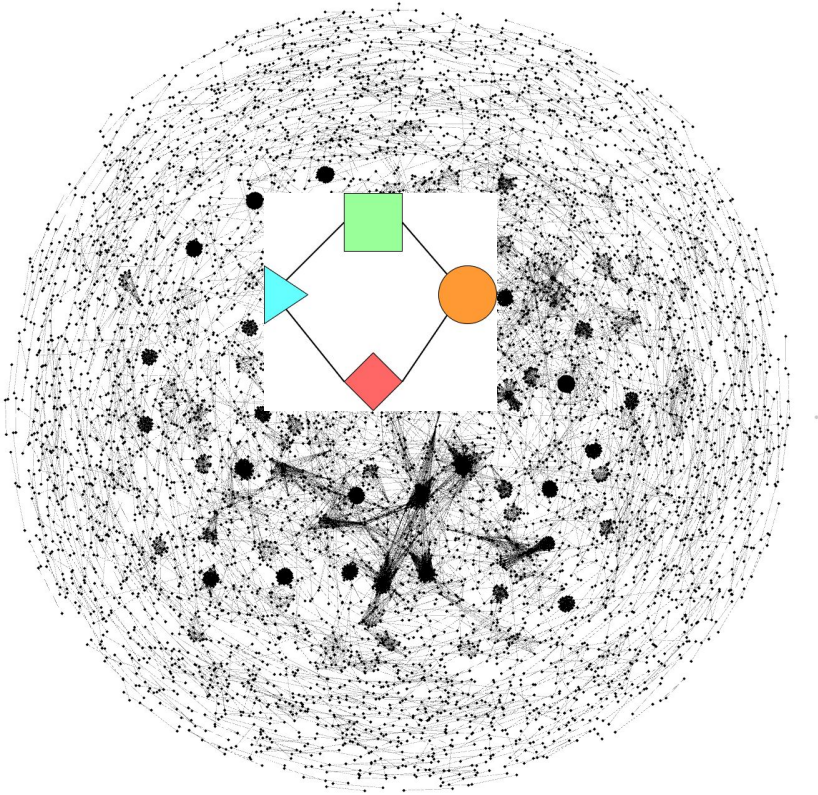
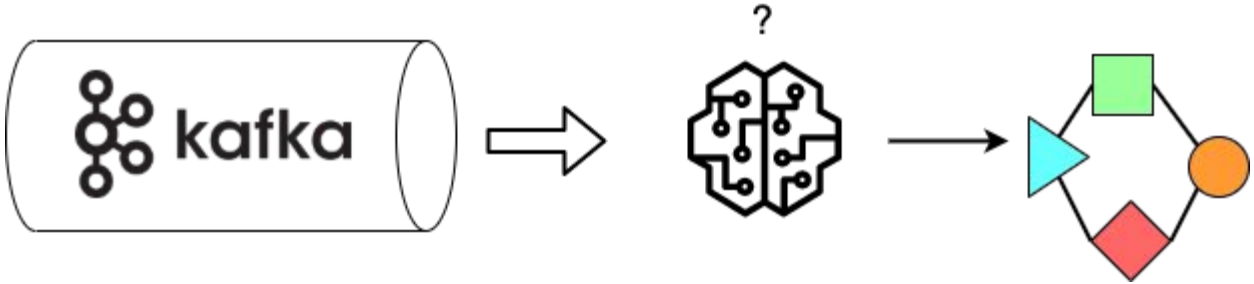


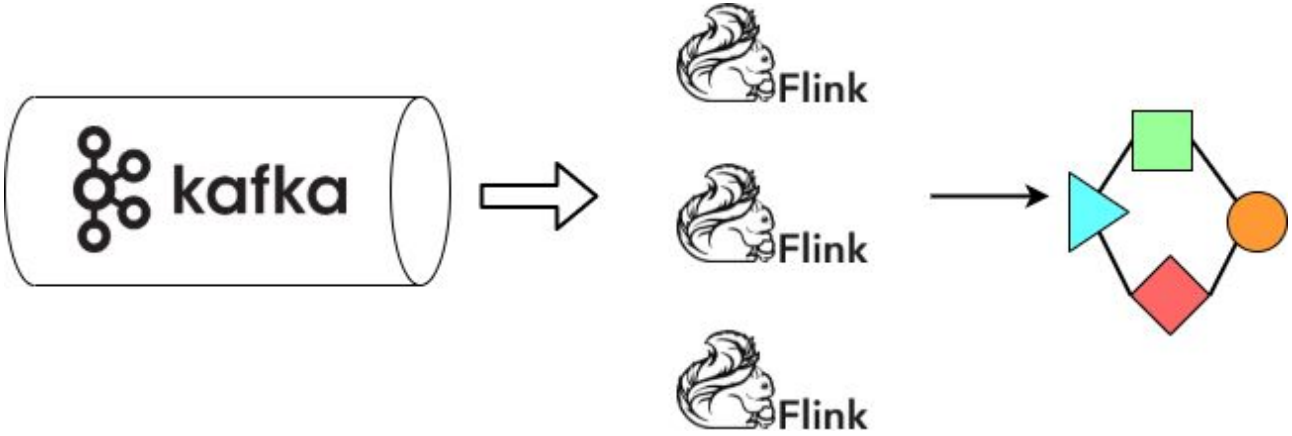
Subgraph Patterns Are Useful For Fraud Detection



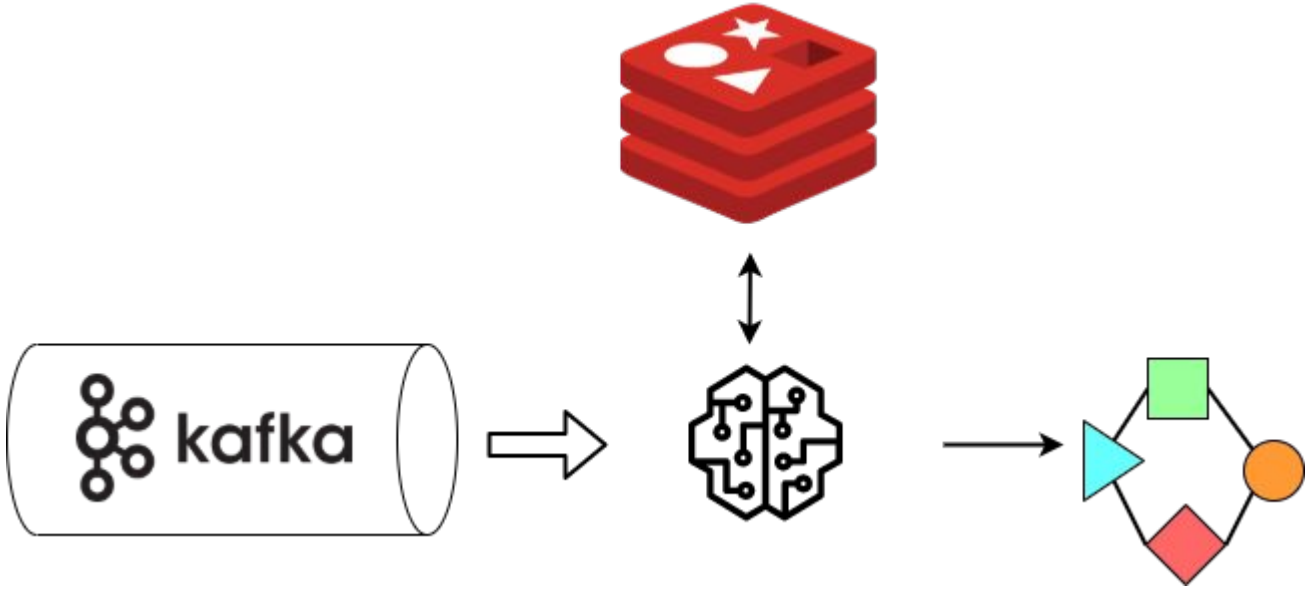
Detect Small Sub-graph Patterns In Real-time



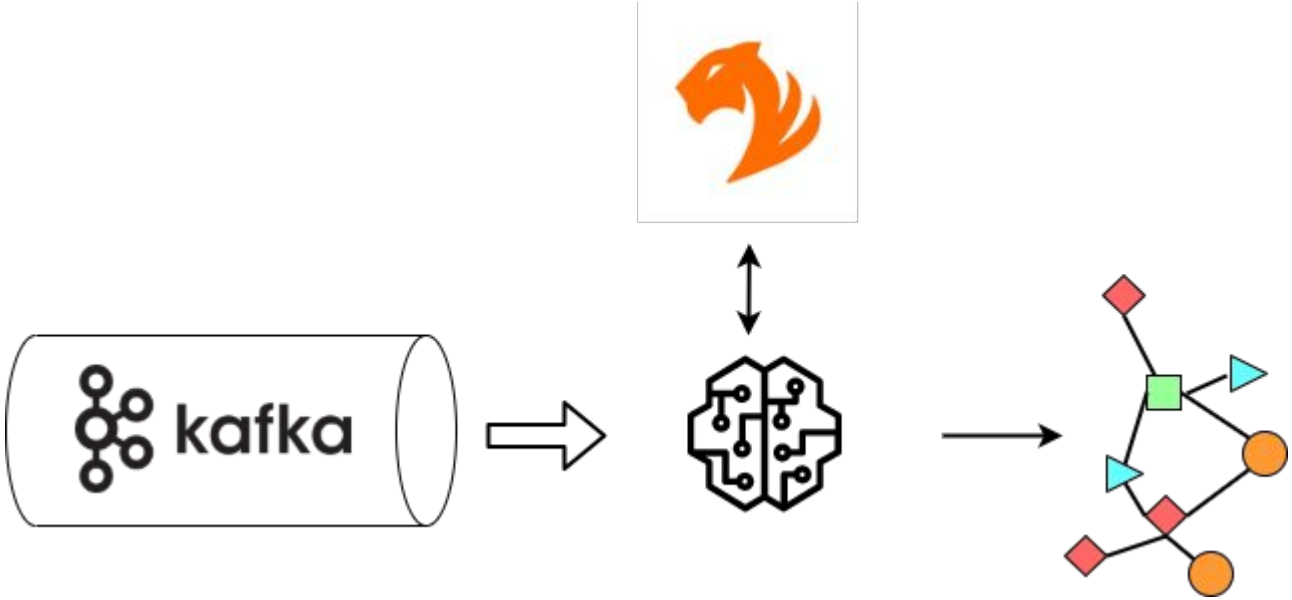
Detect Small Sub-graph Patterns In Real-time



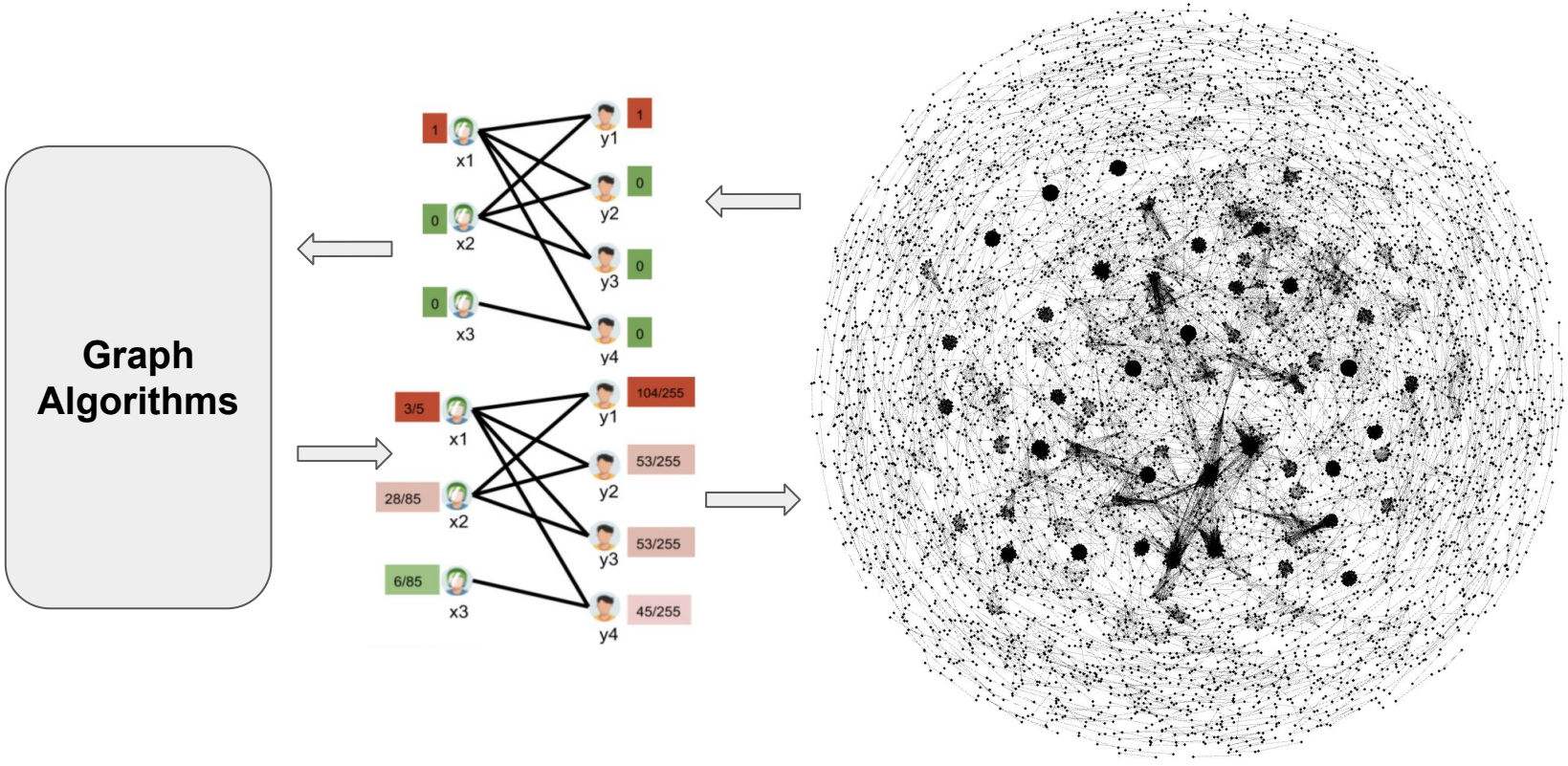
Detect Small Sub-graph Patterns In Real-time



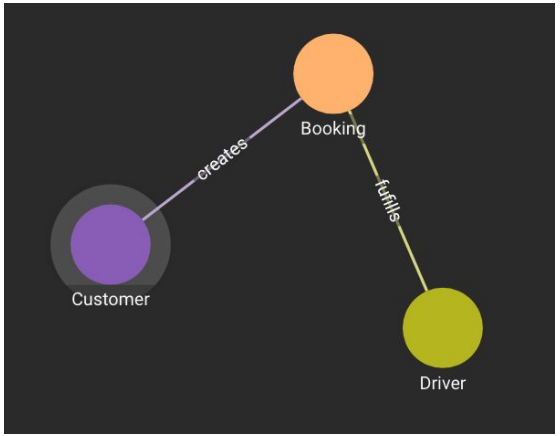
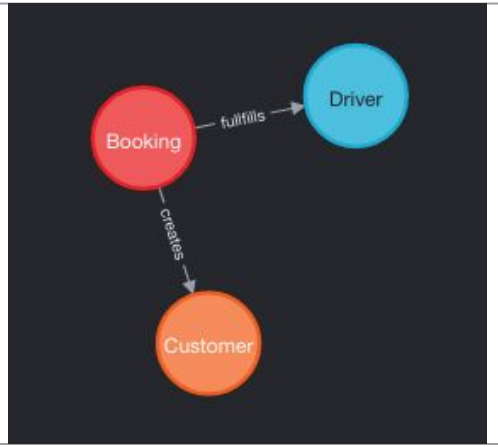
Detect Medium Sub-graph Patterns In Real-time



Take A Panoramic View Of Graph Data



Graph Database Evaluation

TigerGraph	Neo4J
	

Small Graph	Medium Graph
• ***8.8** millions nodes, **11.5** millions relationships* • 5.7 millions bookings • 2.7 millions customers • 327 thousands drivers	• ***82.7** million nodes, **218** millions relationships* • 72.5 millions bookings • 9.7 millions customers • 327 thousands drivers

Graph Database Evaluation

	TigerGraph	Neo4J
Data Loading	Outperform, especially for bigger graphs	
Query Execution	Better at multi-hop queries for small graph and medium graph with abundant hardware resource	Better at graph algorithms for small graph with limited hardware resource
	Both are comparable with graph algorithms (connected components & pagerank) for medium graphs with abundant hardware resource	
Query Language	- GSQL allows optimizing graph queries and making tradeoffs between resource consumption and query performance - GSQL allows modifying existing graph algorithms and implementing new one	- CypherQL requires shallow learning curve - Graph Data Science Library is matured, friendly and optimized - Plugin system is useful
Resource Consumption	- Less idle memory - Gain performance from more CPUs	

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