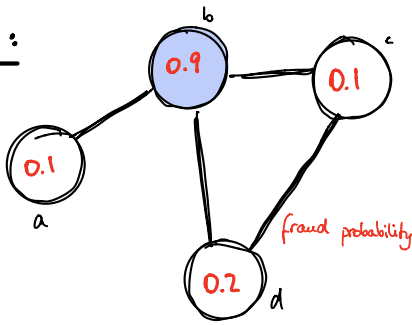


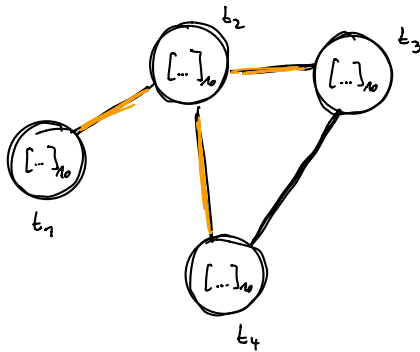
Graphs:



Message Passing / Label Propagation:

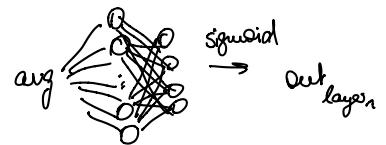
	a	b	c	d		
a	0	1	0	0	0.1	=
b	1	0	1	1	0.9	
c	0	1	0	1	0.1	
d	0	1	1	0	0.2	
	S				A	New A

Graph Convolutional Neural Networks:



1. Collect neighbors embeddings
2. Aggregate embeddings (e.g. average)
3. Pass to NN

→ one weight matrix per layer
only one weight matrix for all nodes (shared matrix W)



Relational Graph Neural Networks

Triples: (src, dst, type) e.g.: People follows Tweets retweeted

Multiple weight matrices:

- each type its own matrix
- Self connection gets separate weight matrix