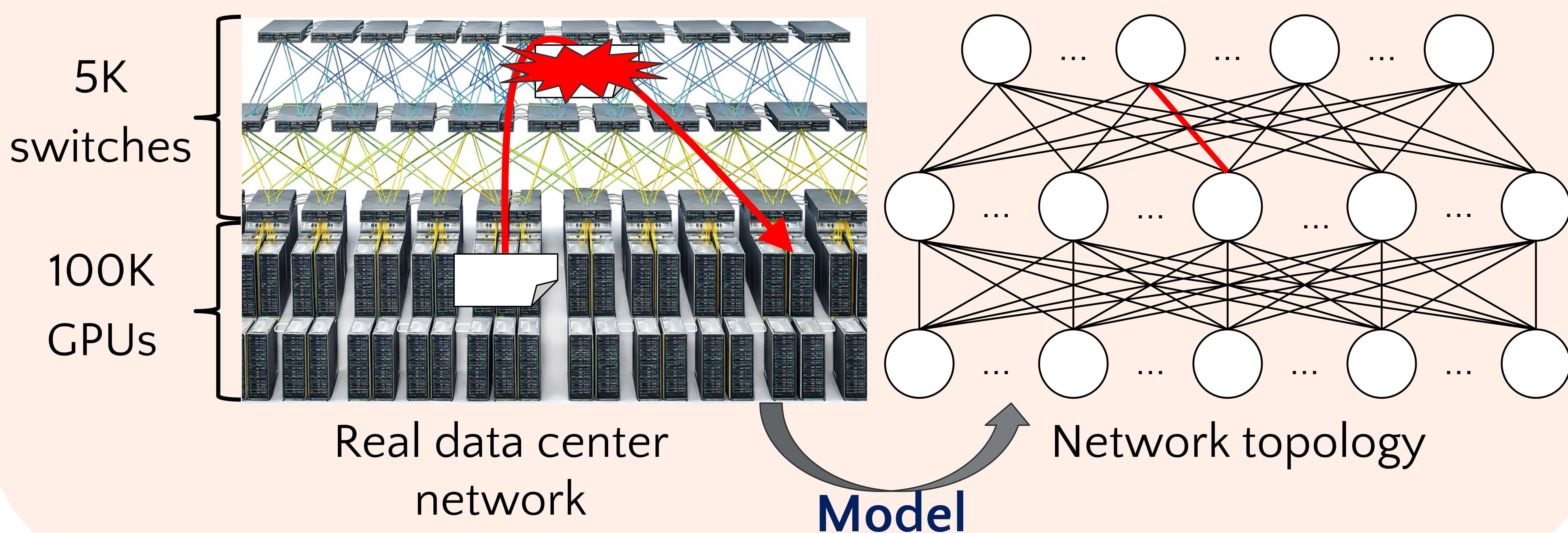


Fault Detection in Data Center Networks

Lisa Suzuki, Pavlos Nikolopoulos, Katerina Argyraki

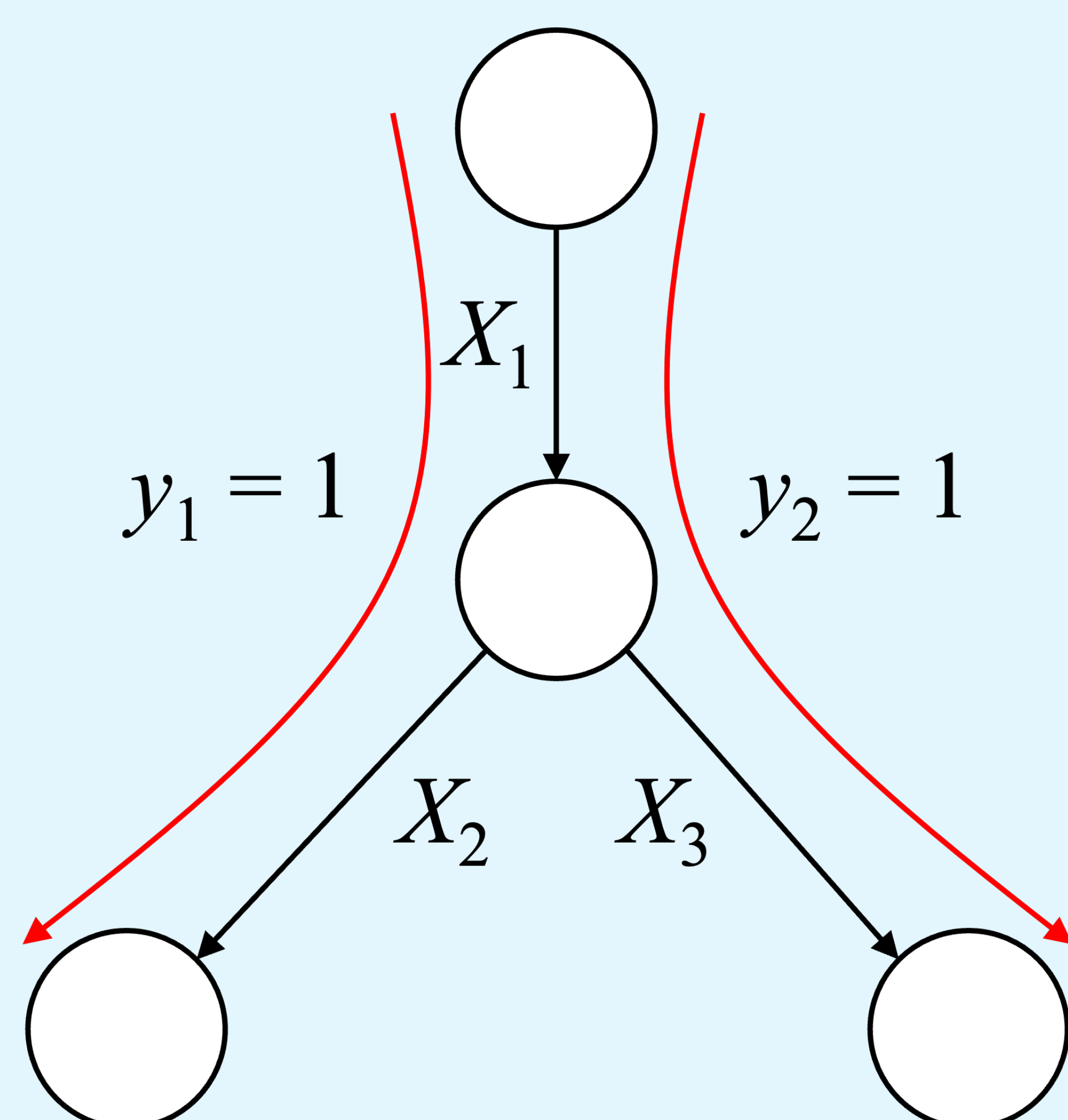
How do we localize faulty components from external measurements?



Network Tomography

How do we infer link states from path states?

Let's measure y_1 and y_2 for multiple intervals.
Probability of both being faulty at the same time p



$$y_1 = X_1 \vee X_2$$

$$y_2 = X_1 \vee X_3$$

Toy topology

Case 1.

T	y_1	y_2
T_1	✗	✗
T_2	✓	✓
T_3	✓	✗
T_4	✗	✗

$$p = 0.75$$

X_1 is more likely faulty!

Case 2.

T	y_1	y_2
T_1	✗	✓
T_2	✓	✗
T_3	✗	✗
T_4	✗	✓

$$p = 0.25$$

X_2 and X_3 is more likely faulty!