

Graph Convolutional Neural Networks for Power Line Outage Identification

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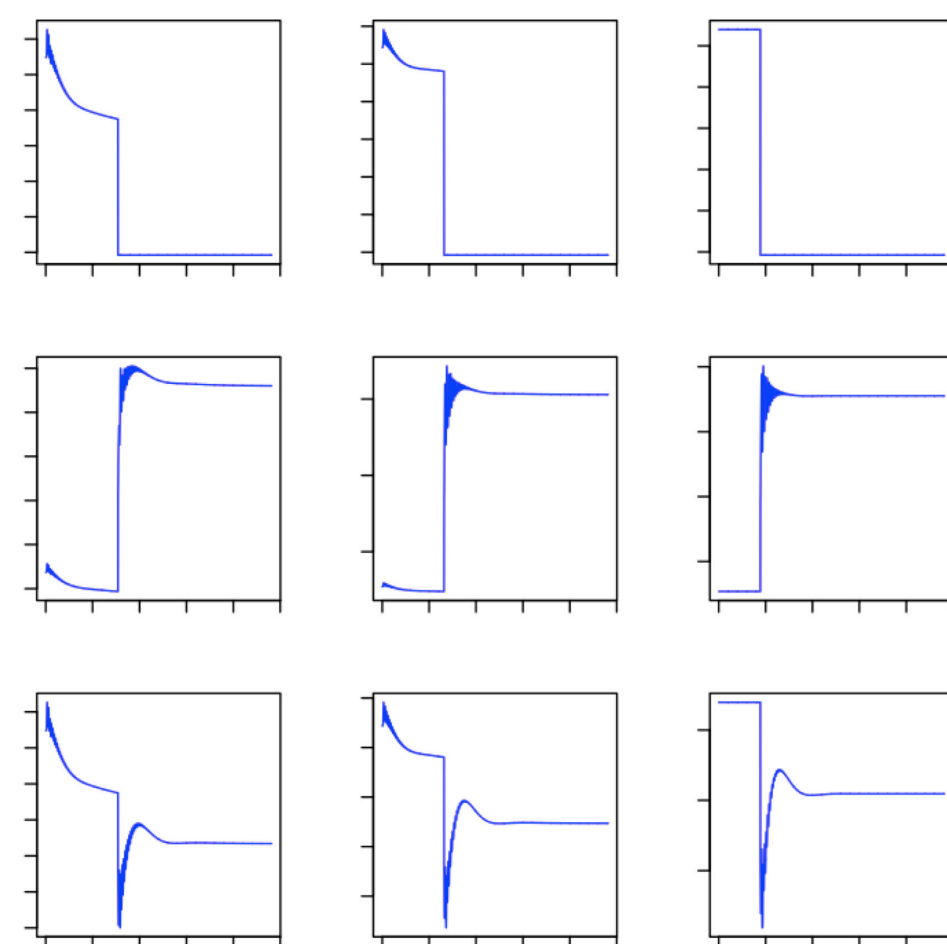
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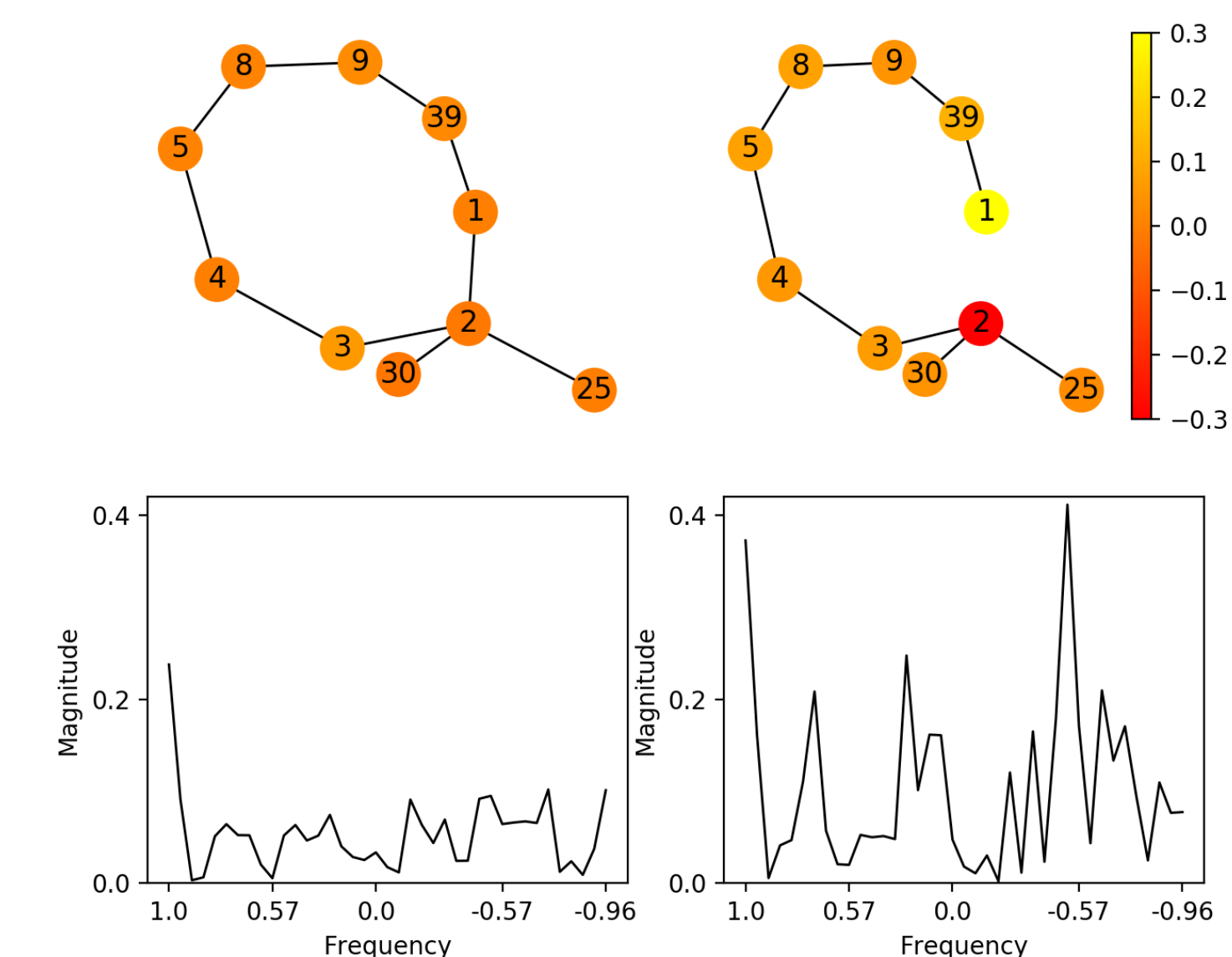
Power Line Outage Identification

- Most common faults: nature induced (weather, animals, trees), human mistakes (breakers, switches)
- Fast identification is important for state estimation and optimal power flow
- A critical task for wide-area monitoring, situational awareness

Data



Notion of Frequency



Approach

- Consider both spatio- and temporal- features
- Distinguish changes resulting from load dynamics and from line outages
- Improve robustness in the presence of noisy data and missing data