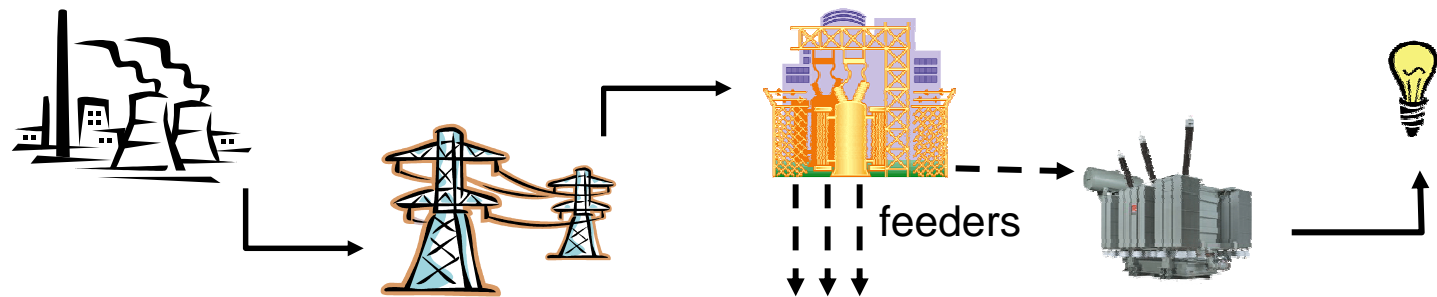# An Online Learning System for the Prediction of Electricity Distribution Feeder Failures

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Overview

- Generate a failure-susceptibility ranking of electrical feeders

- What are feeders and why are they important?

feeders

- Train models using supervised ML algorithms
- *Problem*
  - dynamic features – electrical load data
  - seasonal changes in electricity use

Approach

- An online learning system
  - Prediction using expert advice
  - Treat each batch-trained model as an expert
  - Weight is a measure of confidence in expert's prediction
- Issues
  - Train models at different times and add to the ensemble
  - Drop poorly performing and old models
  - Adapt Weighted Majority to ranking
- Performance measured as normalized average rank of failures
- Compare to other online learning algorithms