Paper 1687: Stochastic Online Learning with Probabilistic Graph Feedback

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Probabilistic Graph Feedback

- Online learning: choose an action, receive reward and feedback
- **Graph feedback**: a generalization of full information feedback and bandit feedback

**Probabilistic graph feedback**: the feedback graph is also random

**Our work (Paper 1687)**: algorithm design and analysis for online learning with probabilistic graph feedback
Our Contributions

- **Performance metric**: expected cumulative regret
- **Asymptotic lower bounds** on expected cumulative regret for all algorithms
- **Proposed novel learning algorithms**
  - The art is to balance exploration and exploitation based on the problem structure
- **Finite-time upper bounds** on expected cumulative regret for our proposed algorithms
  - Upper bound matches the lower bound
- **Preliminary experiment results**
- **Check out our poster and paper** (Paper 1687)