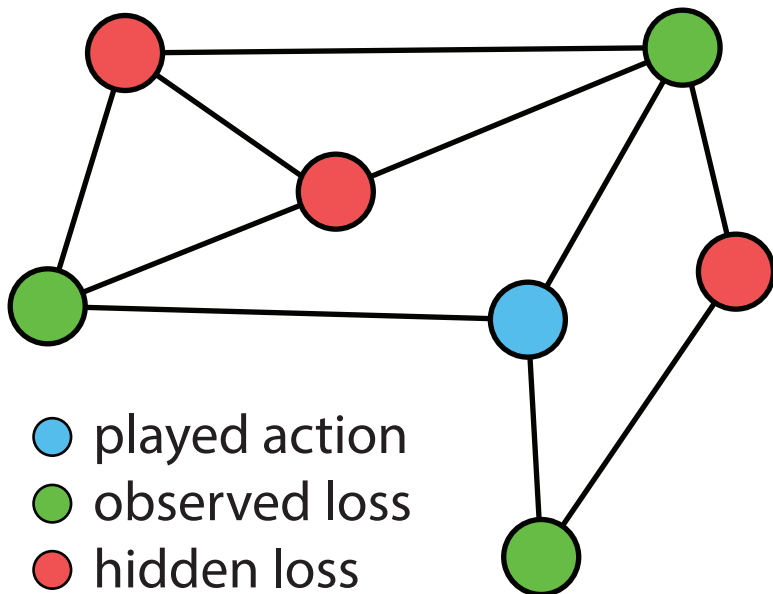


Online learning with

Erdős–Rényi side-observation graphs

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In every round:

- Adversary **sets losses** for actions
- Underlying **graph is generated**
- Learner **picks an action** to play
- Learner **incurs loss** of the action
- Learner **observes losses** of neighbors

	Adversarial graph	Stochastic graph
Observed graph	Solved	Solved
Hidden graph	Not possible to use side observations	

Our paper

- **Erdős–Rényi graph**
- All side observations with same probability

Difficulty: probability can change every round