Des Aspect	Reference	Application	Motivation	Methodology	Performance
Infer unobserved rewards	Sown et al. [5]	Coordination detection in cognitive radar networks	The collaborative radars contain multiple entities, each of which has own utility.	Apply IRL to infer radars' individual utility	The utility functions are inferred with high accuracy
	Parras et al. [3]	Infer attacker's objectives and defend IoT attacks	The objective of attackers is unknown, causing difficulty in defining reward functions	Utilize GAIL to infer attacker's objectives and design defense	The defense can effectively address the attacks
	Wang et al. [8]	Full-dimension task offloading in edge computing	The consequence of each step is unknown until the result of the entire B&B is obtained	Adopt GIRL to infer the reward of each step of B&B	Keep at least 80% of accuracy for guiding B&B
Overcome complex network environments	Li et al. [9]	QoS detection in dynamic and time-variant networks	The network is dynamic and time-variant; the projection between routes and QoS is vague	Apply IRL to predict QoS in dynamic networks	Reduce at most 31.3% error in QoS prediction
	Konar et al. [10]	Load balancing in communication networks	Different factors contribute to QoE with varying degrees in reward function forming	Present trajectory extrapolation to QoE modeling	Achieve 32% improvement in load balancing
	Shamsoshoara et al. [11]	Trajectory scheduling and power allocation in UAV	Numerous physical factors and process affect the UAV, e.g., UAV's speed and power	Develop IRL to capture UAV- related factors	Realize much higher power allocation efficiency
Guide Policy Optimization	Zhang et al. [12]	Power allocation optimization in cellular networks	Using learned reward can better guide the agent to mimic the expert	Utilize maximum entropy to guide agent training	Only 1% performance loss compared with expert
	Tian et al. [13]	Sum rate maximization in multi-cell multi-user networks	The same as [12]	Utilize GAIL to guide the agent training	Achieve 20% gain compared with DRL
	Tian et al. [14]	Power usage maximization in MISO networks	The same as [12]	Utilize GAIL to guide the policy optimization	Reduce 50% power than DRL results