An important and impactful paper

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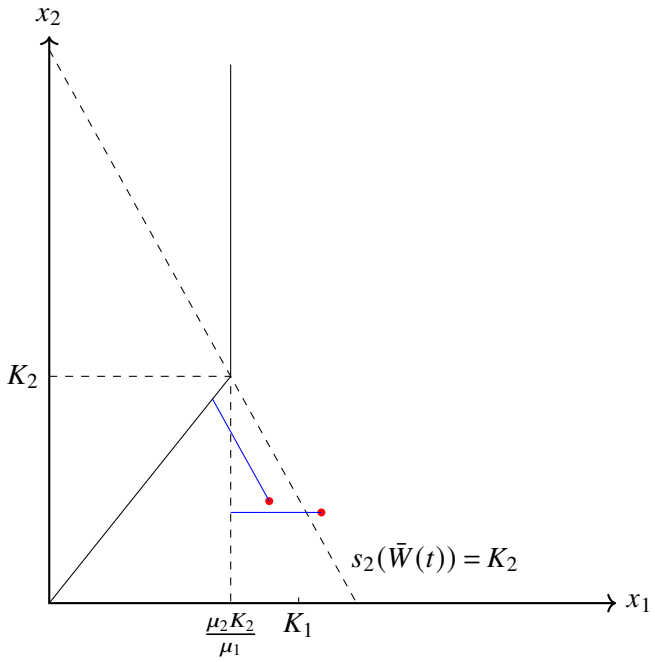
Abstract. Stochastic control in multi-class queueing networks has been extensively studied primarily focusing on minimizing operational costs (e.g., waiting, abandonment). However, in many real-world applications, the system operator must balance the trade-off between waiting costs and maximizing immediate rewards when assigning customers to service units.

Key words: Stochastic control, Queueing network, Uncertainty, Online learning, Optimization

1. Introduction

Erlang (1948), Dantzig (1955), Dynkin (1956), Bellman (1957), Little (1961), Skorokhod (1961), McKean (1965), Iglehart (1965)

2. Model



3. Conclusion

References

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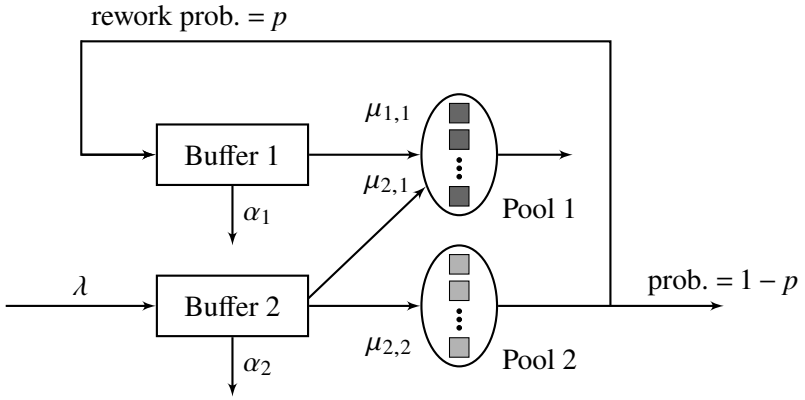

Figure 1 A schematic Model of Outsourcing with rework

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Proofs

EC.1. Proof of Results

EC.1.1. Proof of Lemma

LEMMA EC.1. *As long as* $t > 8\frac{d\log 9+\log(T/\alpha)}{p_*^2}$, *the following lower bound*

Proof of Lemma EC.1 □