Research Statement

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Basically, online/approximation algorithms for combinatorial opitmization problems.
Use LPs
Want to extend

1 Learning-Augmented Online Optimization

- Learning-augmented multi-option ski rental
- Parsimonious learning-augmented online metric matching
- New error metric for online metric matching

2 Online Optimization

- Online correlated selection
- Online bipartite matching with worst-case reassignments
- Multi-stage bipartite matching
- Online weighted geometric set cover and hitting set

3 Approximation Algorithms

- Edge-colored clustering with outliers
- Bottleneck asymmetric traveling salesman problem
- Facility location for matched clients

4 Others

- Bandit learning for stable matching
- Bilateral trade with partial information