A Primal-Dual Approach to Online Optimization Problems

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The primal-dual method is one of the fundamental design methodologies in the areas of linear programming, combinatorial optimization, and approximation algorithms.
In this talk I will provide an introduction to the area of online combinatorial optimization. I will then discuss the primal-dual method as a unified framework to the design and analysis of online algorithms. Examples for which this approach is applicable include central online problems such as paging, routing, scheduling, online set cover, and graph connectivity problems.
Finally, I will show some connections between online combinatorial optimization and online learning.