

Title: Non-clairvoyant Scheduling with Predictions

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Abstract: We revisit the well-studied non-clairvoyant scheduling problem where the goal is to minimize the total completion time of jobs whose processing times are unknown a priori. We consider the question of how to effectively use (possibly erroneous) predictions of the processing times. We study this question from ground zero by first asking what constitutes a good prediction; we then propose a new measure to gauge prediction quality and design scheduling algorithms with strong guarantees under this measure. In a broader context, we also discuss the importance of good prediction error measures for other online problems.

Based on joint work with Ravi Kumar, Mahshid Montazer Qaem, and Manish Purohit.