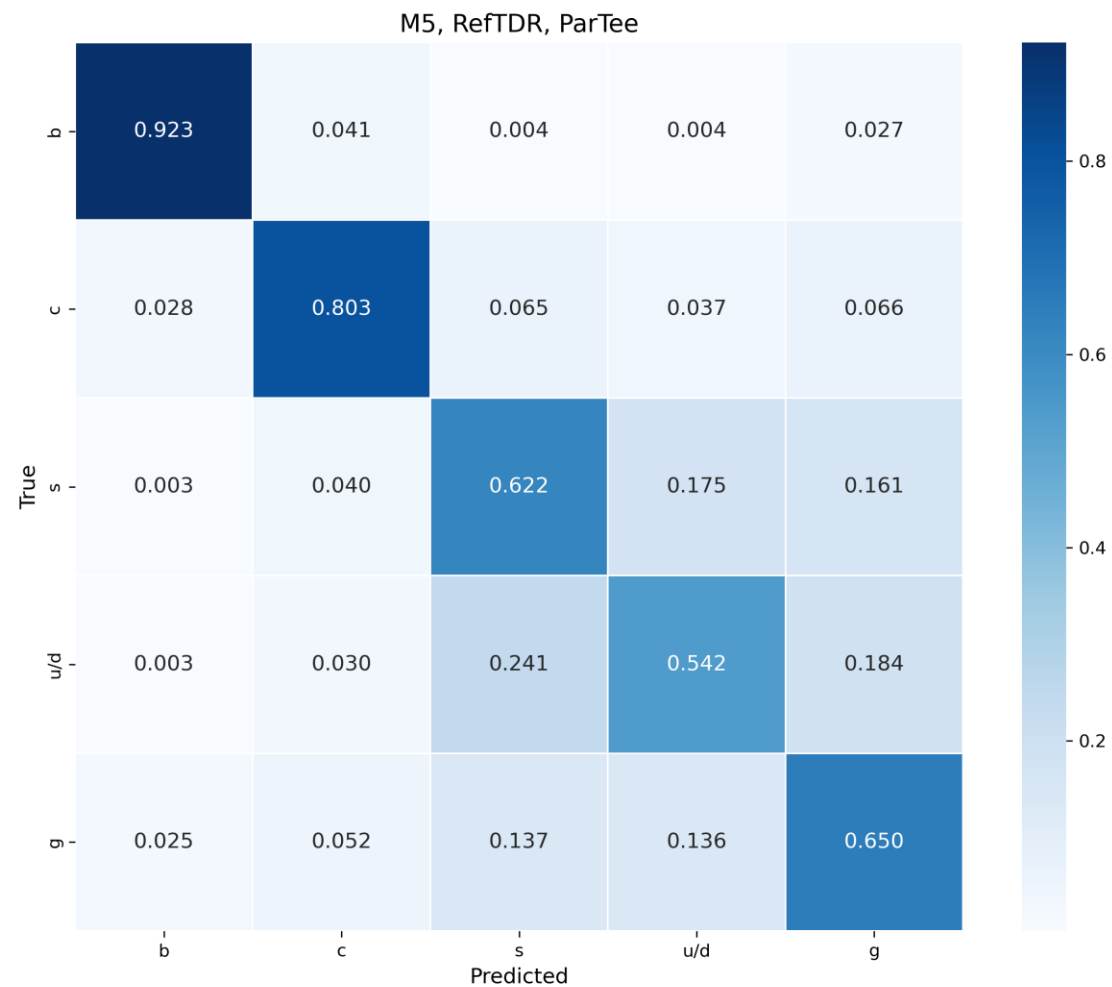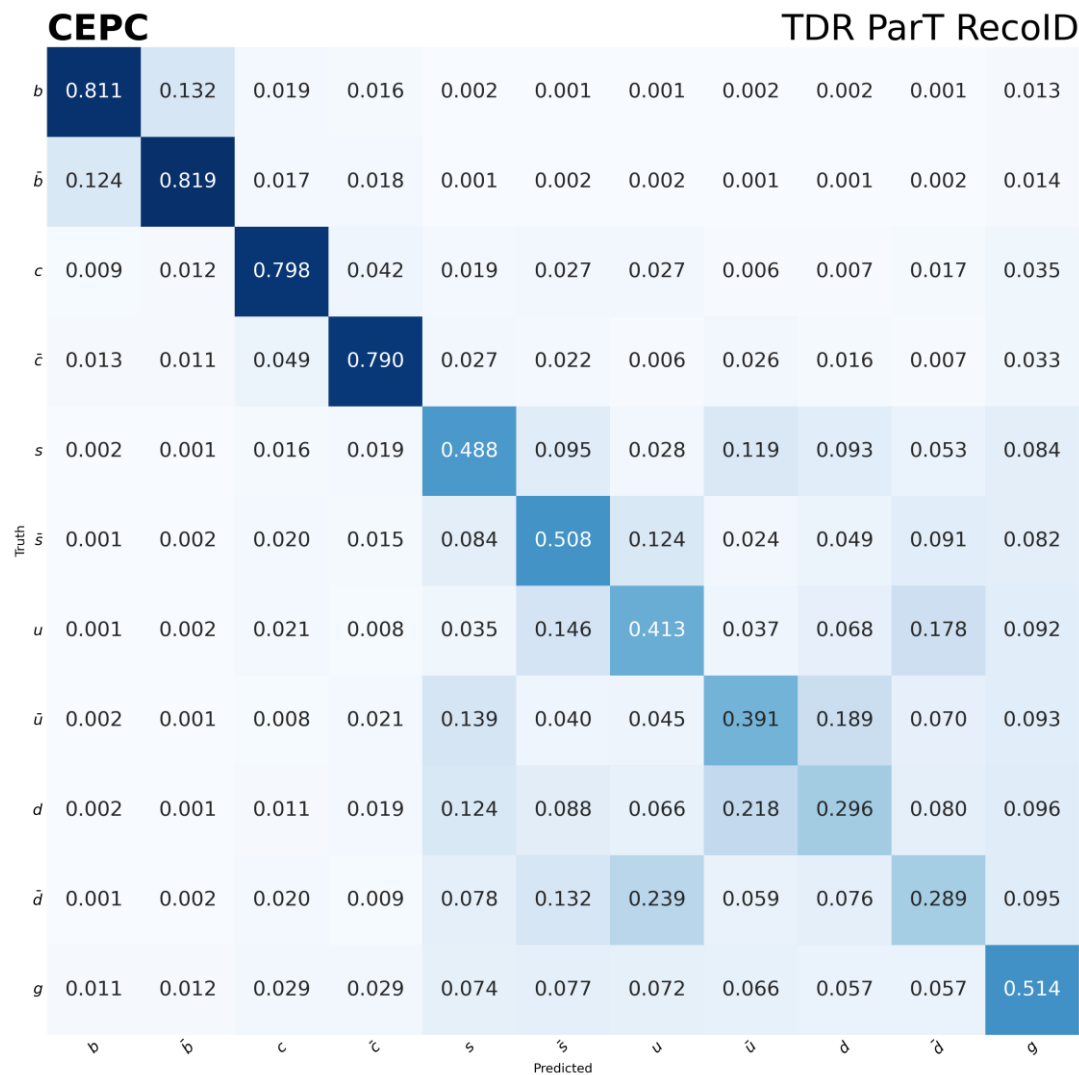# M5 and M11:

By separating b/bbar/c/cbar from b/c, performance improved
B: 94% -- 92%
C: 84% -- 80%.

Finer labels, better model performance:

- Reference: Caruana R. Multitask learning[J]. Machine learning, 1997, 28(1): 41-75.

Multitask Learning*

RICH CARUANA   caruana@cs.cmu.edu

School of Computer Science, Carnegie Mellon University, Pittsburgh, PA 15213

Editors: Lorien Pratt and Sebastian Thrun

Abstract. Multitask Learning is an approach to inductive transfer that improves generalization by using the domain information contained in the training signals of *related* tasks as an inductive bias. It does this by learning tasks in parallel while using a shared representation; what is learned for each task can help other tasks be learned better. This paper reviews prior work on MTL, presents new evidence that MTL in backprop nets discovers task relatedness without the need of supervisory signals, and presents new results for MTL with k-nearest neighbor and kernel regression. In this paper we demonstrate multitask learning in three domains. We explain how multitask learning works, and show that there are many opportunities for multitask learning in real domains. We present an algorithm and results for multitask learning with case-based methods like k-nearest neighbor and kernel regression, and sketch an algorithm for multitask learning in decision trees. Because multitask learning works, can be applied to many different kinds of domains, and can be used with different learning algorithms, we conjecture there will be many opportunities for its use on real-world problems.

Keywords: inductive transfer, parallel transfer, multitask learning, backpropagation, k-nearest neighbor, kernel regression, supervised learning, generalization

JOI Uncertainty

- Generator

    - Madgraph+Py8/HW7 under testing, for cross check;

- VTX   Jialin https://arxiv.org/abs/2508.04191

    - Impact of VTX resolution/Inner radius on JOI

    - I invited her for a report next Wednesday.

- ……