



הסכניון - מכון טכנולוגי לישראל

הפקולטה להנדסת חשמל

אלקטרוניקה ■■■■

מחשבים ■■■■

תקשורת ■■■■

הפקולטה להנדסת חשמל והפקולטה למתמטיקה Machine Learning Seminar

You are invited to attend a lecture by

הנכם מוזמנים להרצאה של

Haim Cohen*

Dept. of Electrical Engineering
Technion

בנושא:

Multi-task Learning with a Shared Annotator

We introduce a new multi-task framework, in which K online learners are sharing a single annotator with limited bandwidth. On each round, each of the K learners receives an input, and makes a prediction about the label of that input. Then, a shared (stochastic) mechanism decides which of the K inputs will be annotated. The learner that receives the feedback (label) may update its prediction rule, and we proceed to the next round.

We develop online algorithms for multi-task binary classification that learns in this setting, and bound its performances in the worst-case setting. The algorithms apply an exploration-exploitation approach in order to allocate the limited feedback in the way that reduces the total number of errors. Additionally, we show that our algorithm can be used to solve two bandits problems: contextual bandits, and dueling bandits with context, both allowed to decouple exploration and exploitation. Empirical study with OCR data, vowel prediction (VJ project) and NLP -sentiment analysis data shows that our algorithm outperforms algorithms that use uniform allocation, and essentially makes more (accuracy) for the same work of the annotator.

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The lecture will take place on Sunday, 13/12/2015
at 11:30 in room 1061
Electrical Eng. Building
Technion City

ההרצאה תתקיים ביום ראשון, 13/12/2015
בשעה 11:30 בחדר 1061
בבניין הפקולטה להנדסת חשמל
קריית הטכניון

כיבוד קל יוגש לפני ההרצאה

מאשר הגשת התזה
והסמינר. בהצלחה.

קובי

