

## Learning from Membership Queries

מרצה:	נאדר בשותי
דרישות קדם:	הסתברות + אלגברה מודרנית
יום ג 16:30-18:30	

Learning from membership queries has flourished due to its many applications in group testing, blood testing, chemical leak testing, chemical reactions, electric shorting detection, codes, multi-access channel communications, molecular biology, VLSI testing and AIDS screening. Many of the new applications raised new models and new problems and in many of those applications the function being learned can be a small depth decision tree. In this course we give all the state of the art results of learning decision tree from membership queries. We will also give many open problems.

### תאור הקורס

- Finite Fields
- Zero Testing, Lower and Upper bounds
- Adaptive learning via Fourier transform
- Adaptive learning via Multivariate Polynomials
- Reductions for Adaptive algorithms
- Non-Adaptive learning via Fourier transform
- Non-Adaptive learning via Algebraic Function Fields
- Reductions for Non-Adaptive algorithms

### דרישות הקורס

50%

מועד א – שבוע אחרון בתקופת הבחינות

מועד ב – חודש אחרי

50%

וידיאו על פרק – בעזרת- PowerPoint  
שבועיים אחרי ההרצאה