

TQC TALKS

@IIIT-DELHI



Meeting Link
March 15, 8PM IST



PREETHAM MOHAN

Quantum Learning Theory Beyond Batch Binary Classification

(joint work with Ambuj Tewari)

ABSTRACT

In distribution-free PAC learning, prior research has revealed that the sample complexity of binary classification with (both realizable and agnostic) quantum examples has the same form and order as the corresponding classical sample complexities.

In this talk, we will demonstrate that this correspondence extends to three other learning settings, namely PAC multiclass classification, online binary classification and online multiclass classification.

For the online learning results, we will first establish an appropriate quantum model and, in the process, investigate a novel classical online model where the adaptive adversary furnishes a distribution over the example space.

We conclude with a preview of future research directions into the distribution-dependent setting that arises as a result of this work.

BIOGRAPHY

Preetham is a PhD student in Applied and Interdisciplinary Mathematics at the University of Michigan, under the supervision of Ambuj Tewari and Shравan Veerapaneni. His research interests lie in quantum learning theory.

Earlier, Preetham completed his undergraduate studies in Mathematics and Physics from Drexel University.

Preetham's LinkedIn



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Friday, 15th March, 8:00 PM IST



<https://braqiit.github.io/Talks.html>



<https://arxiv.org/abs/2302.07409>