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Debarati Das Thesis - review

21 May 2019

To:

Computer Science Institute of Charles University, Czech Republic

It was my honor to review this wonderful and interesting thesis on "New Bounds for Combinatorial Problems and Quasi-Gray Codes" by Debarati Das.

The quality of the write up is pretty good and it include several very interesting and important results. Including the first constant approximation for edit distance which run in a truly sub quadratic time, and a lower bound for the complexity of boolean matrix multiplication without algebraic operations. Both problems were considered as very tough open problems and Debarati managed to solve them.

This thesis is a summary of 5 papers, which 4 of them appeared in top tier conferences. The paper "Approximate online pattern matching in sub-linear time" were upload only to the arxiv, but I am sure that it will be publish next year in one of the top tier conferences.

My recommendation is to approve the thesis with honor. I think that Debarati is one of the top Ph.d alumni of this year.

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