It is my great pleasure to know that Abdus Salam Azad is applying for your reputed graduate program. Azad completed his M.Sc with a perfect CGPA of 4.00 in Computer Science and Engineering from Bangladesh University of Engineering and Technology (BUET). Previously, he completed his B.Sc. from our department too with a CGPA of 3.95 in a scale of 4.00. He secured the 3rd position in his class, which is astounding considering the fact that only the most meritorious students get the opportunity to get admitted into BUET. Some stats will clear this. Among the 2,17,521 students appearing in HSC exam from Science group this year only 1050 students got the opportunity to get admitted into BUET, which is only 0.5% of the total HSC examinee. Also only the top among them get the opportunity to study in our department.

Azad first came to my notice when he was an undergraduate student of course CSE 303 (Database). He used to be quite active in the class and I was impressed by his intellectual. He obtained the highest grade A+ in that course. He also took my CSE 6602 (High Dimensional Data Management) during his postgraduate study. In this course I have the students critically analyze the state-of-the-art papers from an active research problem. Azad picked a very interesting topic on searching images with natural language sentences. Along with the analysis he also came up with an intriguing idea for computing the relevance between a sentence and an image. He suggested utilizing the parse tree of the given sentence to construct the image embedding vectors hierarchically in a way that only “looked at” the relevant parts of the images. From this anecdote I had become aware of his research capabilities and invited him to work in my research group.

Currently we are focusing on the following research question “Given a research idea as a query, how to find the most relevant works from the literature which it might cite?” A paper cites another paper due to a number of different reasons including similarity in the methodology applied in both papers, similarity in problem definition, similarity in datasets used for evaluation etc. This is a multi-objective Learning to Rank problem as the relevance between the query i.e., the research idea and the documents i.e., the papers is multidimensional. The primary challenge of the work is to figure out how to optimally combine the similarities from different, assumingly orthogonal, dimensions to generate the final desired ranking of documents.

Besides the excellent academic records and research capabilities, Azad excels in programming. Under my supervision, he, along with two of his classmates, became the champion in an Android Application Development Contest, arranged by Samsung R&D, Bangladesh. The idea of the app was very exciting. The app implemented a social platform where the community members can collaborate to write stories together. It works like this: One user starts a plot. Other users of the community then suggest in different ways how the plot can be extended. Based on user votes, one of those suggestions is added to the plot. The extended plot is progressed similarly, ultimately producing a whole story. Azad has worked with me on a number of other software projects, too. He along with two of his colleagues wrote the software for allocating SSC examinees to colleges (around 1.3 Million applicants). He also wrote part of an android reader application for interactive digital textbooks for a governmental organization of Bangladesh.

I can assure Azad will prosper in his research career. He is a quick thinker and has great analytical abilities. He is very committed and has the perseverance to work on a problem relentlessly which is much needed for a Ph. D. Hence, without any reservation, I strongly recommend him for admission into the graduate program of your university along with any possible financial assistance.

**Dr. Mohammed Eunus Ali**  
Professor  
Dept. of Computer Science and Engineering,  
Bangladesh University of Engineering and Technology  
Dhaka-1000, Bangladesh  
E-mail: eunus@cse.buet.ac.bd