

SPL1 Project Proposal Form, 2022
Institute of Information Technology (IIT)
University of Dhaka

Student's Name:	Eftekhar Mahmud Efty		
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Non-negative Matrix Factorization			
<p>Project Description:</p> <p>The non-negative matrix factorization is popular for its part-based representation capability. There are several approaches for non-negative matrix factorization. Non-negative matrix factorization gives non-negative factors of a given matrix. For example, for a non-negative matrix V, it produces A and B non-negative factor matrices. Multiplicative update is a widely used technique for this non-negative matrix factorization.</p> <p>I will do following tasks:</p> <ol style="list-style-type: none">1. Initialize A and B randomly<ol style="list-style-type: none">a. Determinant.b. Inverse.c. Transpose and multiplication.2. Graph Laplacian matrix calculation.<ol style="list-style-type: none">a. K nearest neighbor.b. Adjacency matrixc. Degree matrix.d. Local geometry.e. global geometry.3. Non negative factor matrix calculation.<ol style="list-style-type: none">a. Multiplicative update for NMF.			
Languages or Tools to be used- C++, Visual studio, git, GitHub			
<p>Supervisor's Name: Dr. Mohammad Shoyaib</p> <p>Signature of the supervisor: _____</p> <p>Date: _____</p>			