Grad Seminar

22 February 2019—PKH 111

Undergraduates welcomed

KIRAN MAINALI

"LINEAR SYSTEMS: SUMMER RESEARCH SPONSORED BY A NATIONAL LAB"

ABSTRACT:

Multiple methods are available in the literature to solve a linear system. They are generally classified in two categories, direct methods and iterative methods. In this work, we focus on solving a sparse linear system Ax = b, where A is symmetric, positive definite. In this case, forward and backward triangular solve can be used after the Cholesky decomposition of matrix A (i.e. $A = LL^T$) has been computed. In this work, we explore the use of Block Low-Rank Compression (BLR) in the left-looking Cholesky algorithm. To this end, we investigate sorting the updaters to a certain target block during the factorization process and it's impact on rank growth. We compare the results with a regular factorization process without sorting the updates to see the growth of the rank of the target block.

PREVIOUS SCHOOLS:

Central Department of Mathematics, Tribhuvan University, Nepal

INTERESTS :

I love music. Life without music is so insipid. I enjoy talking to the people. Traveling to adventurous places is my major interest.