

Computer Architecture
Spring 2025

## **Using GPU in Matrix Operations**

## **Overview**

In this assignment, you write code to perform Matrix operations using GPUs. This assignment serves to emphasize the gain of using GPUs to process vectors and matrices. You will also observe the effect of different sized matrices on the runtime of your program.

## Requirements

It is required to write a program to compute **A x B x C + A**, where A,B, and C are square matrices of the same **large** size.

You should analyze the performance of your code on different matrix sizes and plot the results.

You should analyze the performance of your code when run on a GPU and when not and plot the results.

## **Submission Instructions**

- Please submit a report including the code and the results for the simulation as described above.
- You are allowed to work in pairs.