

Assignment 19

Final Learning Synopsis Submission

Some of the practicals focuses on parallel programming paradigms like OpenMP, MPI, and CUDA, as well as image processing and system analysis. Each practical, from matrix multiplication and PI calculation with OpenMP to implementing the Producer-Consumer problem with Python threading, demands coding, analysis, and, in many cases, visualization. The tasks investigate parallelism efficiency, scaling behavior, and the performance differences between sequential and parallel processing. There is also an emphasis on understanding MPI communication, CUDA programming, and other image processing processes. Overall, it's a thorough learning experience targeted at mastering parallel programming concepts and their applications of high performance computing.