A Parallel Computing Project On

Connected Components Labelling

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in partial fulfillment for the award of the degree

of

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CERTIFICATE

This is to certify that the project entitled “Connected Component Labelling” is a bonafide work carried out as part of the course Parallel Computing (IT300), under my guidance by

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Place:

Date: Signature of the Instructor

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ABSTRACT

Connected-component labelling (alternatively called region extraction) is an algorithmic application of graph theory, where subsets of connected components are uniquely labelled based on a given heuristic. It is used in computer vision to detect connected regions in binary digital images, although colour images and data with higher dimensionality can also be processed.

Connected component labelling methods are classified into 4 different categories:

- Repeat pass, one component at a time
- Two Pass way
- Hierarchical Tree structure
- Mesh and hypercube parallel processors.

This project is a parallel implementation of Suzuki's and Two pass algorithm i.e. the concepts mentioned in the first two categories.

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