

REPORT ON

GRAPH ALGORITHMS

IIT Hyderabad

INTRODUCTION:

This report is about the skills attained ,lesson learnt , relatedness topic covered on Topic “Graph Algorithms” under Dr. Subrahmanyam Kalyanasundaram for the duration of 1 month from 1st June 2019 to 30th June 2019.The report also represents my experiences and benefits of graph algorithms.

DESCRIPTION:

I carried my internship on topic “Graph Algorithms”. Under this topic, I worked initially on elementary graph algorithms, minimum spanning trees, single source shortest path, algorithms for graph coloring, normal graph coloring, conflict-free coloring, and k-tuple coloring.

Firstly the topic is based on graph coloring, we study the coloring of graphs induced by neighborhoods. A coloring of graph is that if there is no adjacent vertices have same color. The chromatic number of a graph G is the minimal number of colors for which such an assignment is possible. A coloring of graph is conflict-free if every vertex has a uniquely colored vertex in its neighborhood. The conflict-free coloring problem is to color the vertices of a graph using the minimum number of colors such that the coloring is conflict-free.

KNOWLEDGE:

During this period of internship I acquired a lot of knowledge and skills. I got brief understanding in the implementations of graph algorithms and graph coloring like normal graph coloring, conflict-free coloring and k-tuple coloring. I also learnt

about many algorithms encompasses graph, graph traversal and many coding for the coloring of graph etc. using some languages like C, java.

EXPERIENCE:

I really enjoyed the experience of working at IIT Hyderabad including the comfortable working atmosphere, the technical guidance provided by my mentor is really good with a friendly relationship. He supported and guided me in each and every step during the internship.

CONCLUSION:

On the whole, this internship was an amazing experience. We have gained new knowledge, skills and met many new people. We achieved several of our learning goals. This internship programme was not one sided, but it is a way of sharing knowledge, ideas and opinions. The internship was also good in finding out what our strengths and weaknesses are. This helped us to define what skills and knowledge we have to improve in future. At last this internship has given us new insight and motivation to pursue a career in core computer science department.

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