

Are We Moving Fast Enough? TSP Algorithms and Approaches to Problem Solving

Devaun McFarland

Dr. Richard Sharp, Faculty Mentor

McNair Summer 2008 Research

The essence of the human experience is embodied by modern development and the concepts of problem solving. Today a primary focus is efficiency. The Traveling Salesman Problem (TSP) is a deceptively simple way – given a set of vertices or locations, one can find a path which includes all vertices once and returns to the starting point – to determine the shortest path. Since it's known that a fully connected graph with 60 vertices has more potential paths than there are atoms in the universe, is there an algorithm that yields an optimal path? Existing approximations illustrate our computational power, but is it enough?