

## ***Abstract***

*Intelligent Water Drops (IWD) Algorithm is a type of swarm-based optimization algorithm that inspired by a batch of water drops that conjoined and formed a stream of water that big enough in a river. This water flow then pass over from edge to edge to form a travel route. This algorithm is one of nature-inspired algorithm that has an impressive performance on continuous optimization problems, such as combinatorial problem Travelling Salesman Problem (TSP).*

*In IWD Algorithm, there are some important elements that affect the way water drops flow, namely Velocity and Soil. Both of these elements working together with water drops so that it can transform its surroundings, until this water drops arrived at its final destination. From these mechanism are the rivers or water drops seek the optimum path depending on the condition of its surroundings to the its destination or the ocean. This mechanism is the feature of IWD Algorithm to find the path with more rapid and effective compared with other algorithms.*

*This final project used four dataset that each containing 51, 70, 75 and 100 cities. Test results show IWD can work well on the TSP and from the obtained solution shows that solution has been approached optimum value with an accuracy above 96%.*

***Keywords:*** *Travelling Salesman Problem, Intelligent Water drops, NP-Complete, optimum solution*