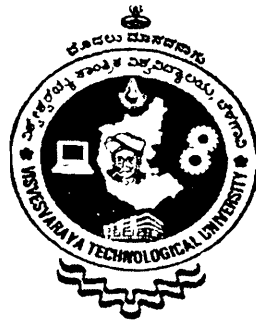


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A Project Report on

OPTIMIZATION TECHNIQUES FOR NETWORKS USING COGNITIVE APPROACH

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**BACHELOR OF ENGINEERING
IN
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ABSTRACT

Cognitive network is a network composed of elements that, through learning, planning and reasoning, adapt to varying network conditions dynamically in order to optimize end-to-end performance. In a cognitive network, decisions are made to meet the requirements of the network as a whole, rather than the individual network components. Cognitive networks employ cross-layer optimization and act simultaneously on parameters belonging to multiple layers in the protocol. They are different from other communication technologies because these actions are taken with respect to the end-to-end goals of a data flow.

The objective of this project is to implement optimization algorithms to find the optimal path from source to destination. Here we determine the most optimal solution from the various solutions provided by the algorithms considered. Only a comparative study between different algorithms is done in order to find the best optimization technique. Quality of Service parameter, bandwidth in this case, is taken as the input from the cognitive layer and then the routers apply the algorithms on this input to determine the optimal path.

The algorithms are implemented for a common function and the time taken to compute the optimal path to reach the destination is taken as the comparison parameter. Based on the time taken the conclusion of this project is drawn.