

### Mini Project Topics for BTech(Computer Engineering) – 3<sup>rd</sup> Sem Students

Note1: Choose any one topic

Note2: Contact the Resource Person only if you need advice on things like dataset, suitable tools etc.

Resource persons will NOT advise you in any way in the coding/implementation part. Mini Project is purely a self-study and self-implementation topic.

SI No 1-5, Resource Person: Dr. Sachin Sharma
1. IoT based Weather Reporting
2. IoT based car parking system
3. IoT based air pollution monitoring system
4. IoT based sound pollution monitoring system
5. IoT based garbage monitoring system
SI No 6-8, Resource Person: Dr. Santosh Kumar
6. Traffic Analysis of Wireless Networks
7. Analysis for privacy and risk compliance with graph data model
8. Stock Prices Predictor using Time Series
SI No 9-11, Resource Person: Ankur Choudhary
9. The student is expected to develop a basic understanding of Wireless Sensor Networks. Work out the classical Low Energy Adaptive Clustering Hierarchy (LEACH) protocol, preferably using MATLAB (not restricted), (can check implementations at <a href="https://in.mathworks.com/matlabcentral/fileexchange/">https://in.mathworks.com/matlabcentral/fileexchange/</a> ), further, the student is expected to extend this implementation to Multi-Hop LEACH (various reputed research papers are available for the same).
10. The student is expected to develop a basic understanding of Wireless Sensor Networks. Work out the classical Low Energy Adaptive Clustering Hierarchy (LEACH) protocol, preferably using MATLAB (not restricted, can check implementations at <a href="https://in.mathworks.com/matlabcentral/fileexchange/">https://in.mathworks.com/matlabcentral/fileexchange/</a> ), further, the student is expected to extend this implementation to centralized LEACH (various reputed research papers are available for the same).
11. The student is expected to develop a basic understanding of Ad hoc On-Demand Distance Vector (AODV) Routing protocol, further the student is expected to implement the AODV routing protocol preferably in MATLAB (not restricted).
SI No 12-13, Resource Person: Himanshu Rai Goyal
12. IoT-based flood detection system is built to monitor and track different natural factors (humidity, temperature, water level, etc.) like to predict a flood, thereby allowing us to take the necessary measures for minimizing the damage caused. The system uses sensors to collect the data for all the relevant natural factors. For instance, a digital temperature humidity sensor detects the fluctuations in humidity and temperature. On the other hand, a float sensor continually monitors the water level.
13. IoT based border security systems.