A Machine-Learning Based Connectivity Model for

Complex Terrain Large-Scale Low-Power Wireless

Deployments

This paper deals with the deployment of low powered wireless sensors in difficult terrains. This paper proposes a novel approach in deploying sensors in difficult terrains. This paper uses the dataset gathered from data produced by ARHO (American River Hydrological Observatory) in California. This a dense forest area and the parameters taken into consideration are

1. Path ground distance- distance between two wireless sensors, calculated in meters using GPS
2. Mean percent tree canopy cover
3. Terrain Complexity
4. Vegetation variability
5. Path angle.

This then uses RANDOM FOREST algorithm to learn and predict the next most optimal placement of the sensor in order to ensure maximum connectivity.