# Network Information & Vizualization

## Network Properties
___

| | |
|---|---|
| Total Nodes: | 500.0 |
| Total Edges: | 1984.0 |
| Diameter: | 5.0 |
| Density: | 0.016 |
| Average Degree: | 3.968 |
| Characteristic Path Length: | 2.95 |

**Tolerance**

### Attack
**3.0** %

### Failure
**17.2** %
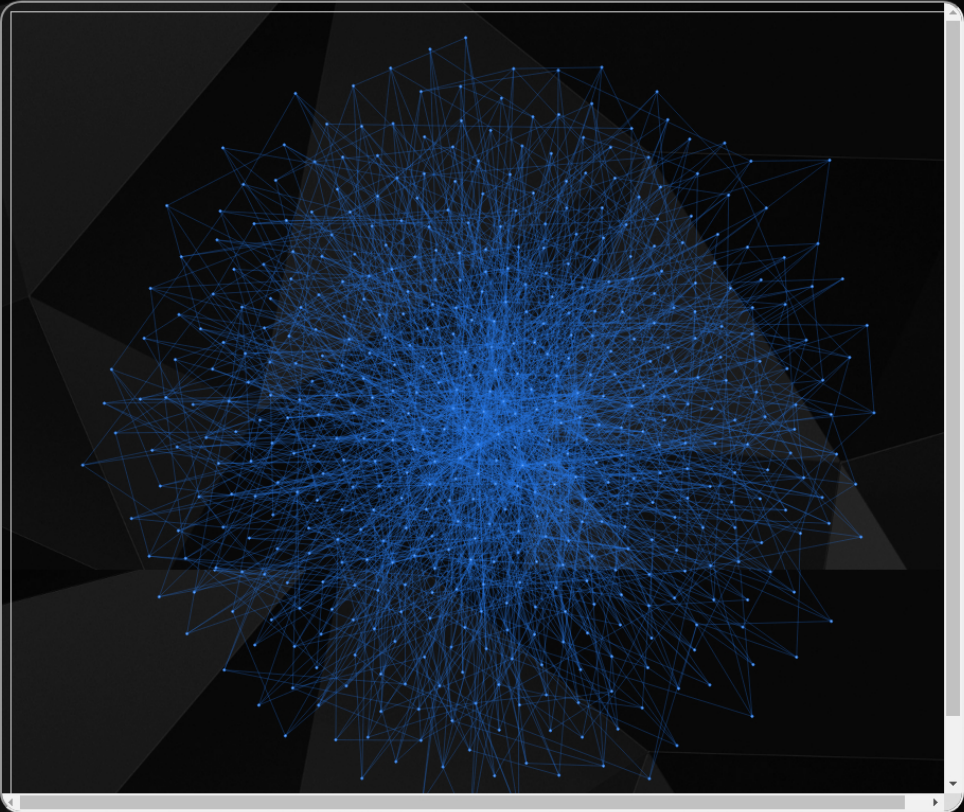


# Most Crucial Nodes

### Based on Degree
6  10  4  7
5
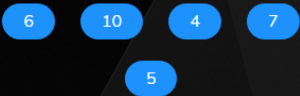
### Based on Betweenness Centrality
6  10  4  7
5
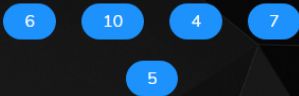
# Error & Attack Tolerance Analysis

Degree Distribution - Attack vs Failure vs Normal

Degree Distribution - Attack
Degree Distribution - Failure
Degree Distribution - Normal

Degree Distribution - Normal

## Failure Analysis



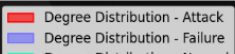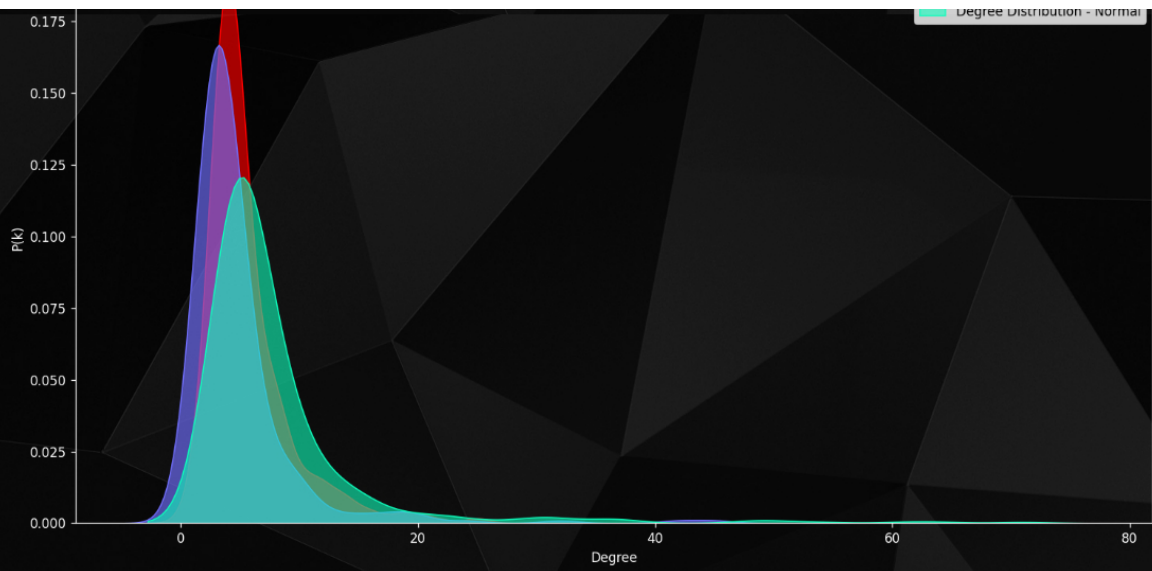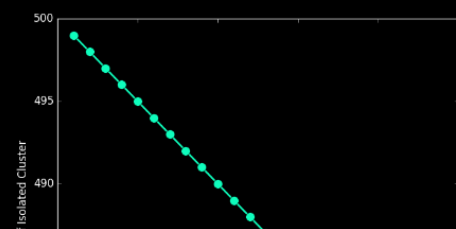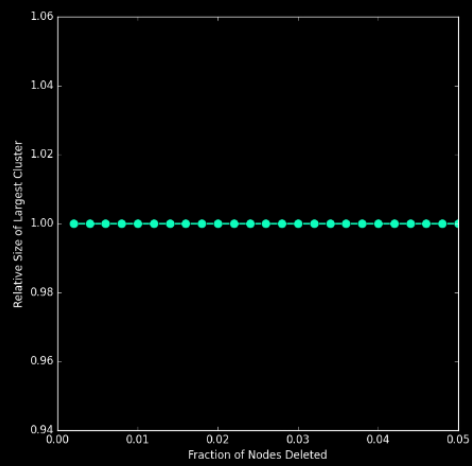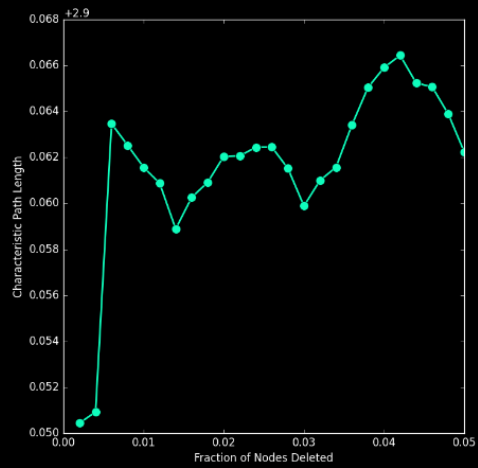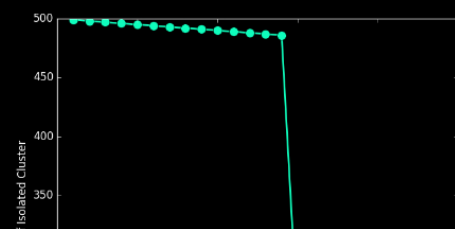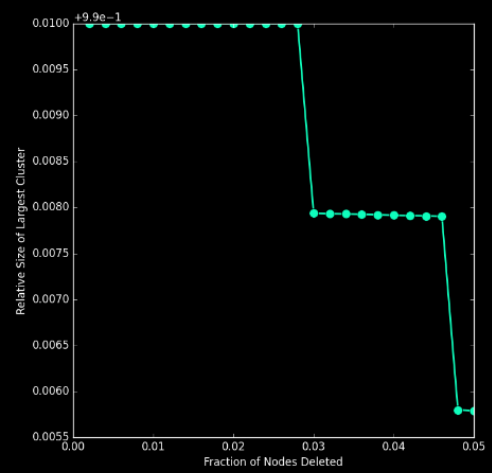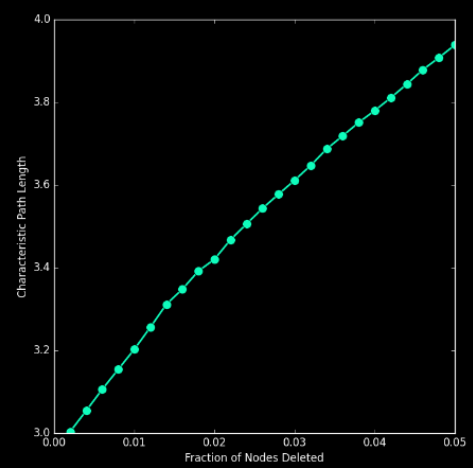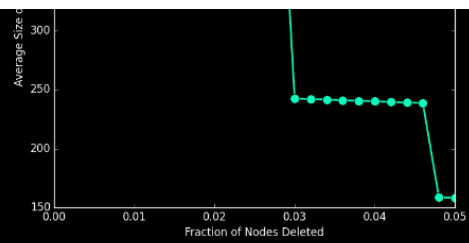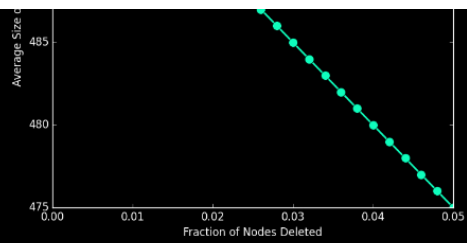## Attack Analysis

# Recommended Optimized Network

We already know the crucial nodes based on their degree and Betweenness Centrality. Any damage to these nodes either by error or attack will result in damage to the whole network. To save ourselves from such situations, we can take backups of these nodes. This will increase the tolerance of the network. You can download the updated network file from below.

**Download Recommended Network**