Trends in Network Robustness Research

Christopher A. Wood

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Abstract

Due to the growing pervasiveness of civilian and military networks for the transmission of safety-critical and real-time data, it is critically important that they are resistant to selective and random network node deletions. Network robustness is a measure of the performance and throughput responsiveness of a network in response to such deletions. The nature of this metrics lends itself to the application of percolation theory, which can be used to describe the behavior of connected clusters in a random graph. This theory can be utilized to design and construct optimally robust networks in order to yield the best performance in the event of node deletions.

This paper presents some background information on network robustness and its importance in modern communication systems, presents some recent advances made in the topic, and concludes with avenues of future work that can be explored by researchers in the field.

1 Introduction

TODO