Statistics Seminar Series

Sampling Biases in IP Topology Measurements

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Thursday, April 10, 2003, 4:00-5:00pm
Mathematics and Computer Science (MCS) Building, Room 149
111 Cummington Street, Boston

Tea and Cookies at 3:30pm in MCS 153

Abstract: Considerable attention has been focused on the properties of graphs derived from Internet measurements. In particular, the node degree distribution in such graphs typically shows surprisingly high variability. In this talk I'll ask whether the measurement process underlying these conclusions is trustworthy. I'll show that the way in which most Internet topology measurements are made results in highly biased samples. Furthermore, I'll show that the bias introduced tends to increase the variability of node degree distribution. We formulate tests for bias and find that when we examine typical datasets, we find strong evidence of bias.

Joint work with Anukool Lakhina, John Byers, and Peng Xie (BU Computer Science).

For directions and maps, please see *http://math.bu.edu/research/statistics/statseminar.html.*