

MICHIGAN STATE UNIVERSITY
Department of Statistics and Probability

COLLOQUIUM

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Estimation of a distribution function with increasing failure rate average

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10:20 AM - 11:10 AM [Eastern Standard Time](#)

Zoom

Abstract

A life distribution function F is said to have an increasing failure rate average if $H(x)/x$ is nondecreasing where $H(x)$ is the corresponding cumulative hazard function. In this paper we provide a uniformly strongly consistent estimator of F and derive the convergence in distribution of the estimator at a point where $H(x)/x$ is increasing using the arg max theorem. We also show using simulations that, unlike other estimators of the past, this new estimator outperforms the empirical distribution in terms of mean square error at all quantiles. An example is also discussed to illustrate the theoretical results.

Zoom details can be found at: <https://stt.natsci.msu.edu/stt-colloquium-zoom-info/>

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