

Joint Statistics Seminar

The Hong Kong University of Science and Technology

Software Artifact Classification for Fault Inspections

by

Dr. Lianfen Qian

Florida Atlantic University

Date: June 5, 2006 (Monday)

Time: 3:00 p.m. - 4:00 p.m.

Venue: Room 4502 (Lift 25/26)

Abstract

One of major decisions for software managers in industrial companies is to determine the software project types for the purpose of fault inspections. There are two types of software inspections: Formal Inspection and Mini Inspection. The cost of the project relates to the type of inspection directly since Formal Inspection requires more people in the inspection, while Mini Inspection requires fewer people. The current guideline for managers is to consider the size of the software only; i.e., the line of code (LOC). There is no theoretical or data support for this guideline. In this paper, we propose a novel method on classification of fault inspection using ROC and AUC-based technique for model building for software inspection data. In addition, we use change-point estimation technique to estimate threshold (change-point) for Formal and Mini Inspections. The proposed methods are applied to a set of fault inspection data from a local company. It results in parsimonious models with excellent classification and first hand guideline for industrial managers.

(Joint work with and Qingchuan Yao)

All interested are welcome!

For details, please contact ISMT Department.