The 2015 IEEE International Conference on Software Quality, Reliability and Security

QRS 2015

Vancouver, Canada, August 3-August 5, 2015
http://paris.utdallas.edu/qrs15

Keynote Speech

Metamorphic Testing: A Simple Method for Testing Non-Testable Programs

Tsong Yueh Chen
Department of Computer Science and Software Engineering
Swinburne University of Technology
http://www.ict.swin.edu.au/personal/tychen/

Abstract

A program is said to be non-testable if its output could not be verified. This keynote speech is aimed to provide a summary of the state-of-the-art for the technique of metamorphic testing which has been proposed to test the non-testable programs. We will cover the basic concepts, methodology and limitation of metamorphic testing. Also presented will include: the successful applications of metamorphic testing in non-testable systems, integration of metamorphic testing with some testing methods for testable programs, identification of metamorphic relations, prioritization of metamorphic relations, cost-effectiveness of metamorphic testing, etc. Potential research directions for metamorphic testing will also be discussed.

About the speaker

Tsong Yueh Chen his BSc and MPhil from The University of Hong Kong, MSc and DIC from Imperial College of The London University, and PhD from The University of Melbourne. He is currently a Professor of Software Engineering at Swinburne University of Technology, Australia. Prior to joining Swinburne, he taught at The University of Hong Kong and The University of Melbourne. His main research interest is software testing. He is the principal originator of two well-known methodologies in software testing, namely, metamorphic testing, and adaptive random testing.