# A Novel Tool for Resource Utilisation Regression Testing of JVM-based Applications

A thesis presented in partial fulfilment of the
requirements for the degree of

Master of Science
in
Computer Science

at Massey University, Manawatu, New Zealand

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2013

# Abstract

In recent years, automated regression testing with tools, like JUnit, has become a cornerstone of modern software engineering practice. Automated testing focuses on the functional aspects of software. Automated *performance* testing is less popular. Where used, it is based on the principle of comparing measurements against static thresholds representing parameters such as system runtime or memory usage.

This thesis presents an alternative approach to automatically generate test oracles from system calibration runs. This approach is particularly useful to safeguard the investment made when software is manually fine-tuned. A proof-of-concept tool was developed that works for all applications that can be deployed on the Java Virtual Machine (JVM), and is capable of testing all properties that can be accessed through Java Management Extensions (JMX) technology.

# Acknowledgement

It would not have been possible to write this thesis without the help and support of the people around me, to only some of whom it is possible to give particular mention here. In particular I would like to thanks my supervisors Jens Dietrich (Massey University) and Stephen Marsland (Massey University). Without your guidance and support this thesis would not have been possible.

Jens, your supervision over the past 3 years has been invaluable, your attitude towards Software Engineering is inspiring and I am thankful you have had you as a supervisor. Stephen, thanks for the encouragement over the past few months and your insights into machine learning and performing academic research.

A big thanks goes to my parents, Jayne and Brian, for supporting me during this thesis, without their help I would not be where I am today. Thanks also goes out to my fellow students in the computer science department at Massey University.

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