Predictive Analytics for Software Testing

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1 INTRODUCTION

The ever increasing volume of data produced by realising and using software calls for a new generation of analytical techniques that can help software engineers better understand their software processes, products and customers. Devising effective Predictive Analytics for Software Engineering holds the promise to maximise product quality, users’ satisfaction and revenues.

This keynote illustrates how search-based heuristics can be used to build effective predictive models for software engineering [2, 7] and highlights some of the recent developments in the production of adaptive [6, 11, 12], human-competitive [13] and scalable solutions [3, 4, 10].

The keynote also introduces the mutually beneficial relationship between predictive modelling and software testing by illustrating new ways to strengthen current testing practice through the use of predictive models [14] and, vice versa, to construct better predictive models through the use of information available from software testing activities [1].

The talk concludes discussing how text mining, analytics and search-based techniques can be combined to obtain more efficient test automation, for example, exploiting artefacts written in natural language to infer behavioural models of software applications and to discover issues earlier in the process [5, 8, 9, 15].

REFERENCES