UNIVERSIDAD COMPLUTENSE MADRID

Facultad de Informática

Inferring procedure specifications from Javadoc comments for automated testing

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Entrada libre hasta completar el aforo

Resumen:

Procedure specifications are useful in many software development tasks. As one example, in automatic test case generation they can guide testing, act as test oracles able to reveal bugs, and identify illegal inputs. Whereas formal specifications are seldom available in practice, it is standard practice for developers to document their code with semi-structured comments such as Javadoc. These comments express the procedure specification with a mix of predefined tags and natural language. In this talk I will present Toradocu, an approach that combines natural language parsing, pattern matching, and semantic similarity to translate Javadoc comments into executable procedure specifications written as Java expressions. During this talk I will show how Toradocu can be used in combination with an automatic test case generation tool such as Randoop. The generated test cases can reveal more defects and produce fewer false alarms.

Sobre Alessandra Gorla:

Alessandra Gorla received her Bachelor and Master degrees in computer science from the University of Milano-Bicocca in Italy. She completed her Ph.D. in informatics at the Università della Svizzera Italiana (USI) in Lugano, Switzerland in 2011. In her Ph.D. thesis she defined and developed the notion of Automatic Workarounds, a self-healing technique to recover Web applications from field failures, a work for which she received the Fritz Kutter Award for the best industry related Ph.D. thesis in computer science in Switzerland. Before joining IMDEA Software Institute in December 2014 as an Assistant Research Professor, she has been a postdoctoral researcher in the software engineering group at Saarland University in Germany and a visiting researcher at Google in Mountain View (USA). Her primary research activities are in the areas of software engineering, in particular on the automation of software testing and analysis activities, and mobile security. She has been the coordinator of SMAPPER, a project funded by EIT Digital to define a better permission management system for mobile devices.