Invited Keynote for GI 2018

Evolving Software Quality

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Genetic Improvement describes a class of search-based techniques that automatically improve software along a variety of quality dimensions. In this talk, I will survey the research advances that have made possible the significant recent progress in this field. I will focus on the ongoing research opportunities that lie in genetic software improvement, with an especial focus on the challenges of confidently reasoning about, measuring, and assuring the quality of automatically and constantly evolving artifacts.