Keynote

Software Engineers Don't Care about Models, but They Want Automated Tests

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Abstract

Specification-based testing has roots in the mid-1970s, when Huang suggested testing telecommunications software by covering nodes in FSMs. More criteria for generating tests were invented during the 1980s and 1990s. Practicing software engineers seldom used formal specifications, so scientists developed informal modeling languages, which led to model-based testing (MBT), which features abstract tests on the model and concrete tests on the implementation. Although these techniques have great value, academic researchers need to remember that, to practitioners, models are simply a means to an end--a way to create high quality software. To focus our research on realistic industry problems, we need focus on the end result of high quality, well tested software, and use as much automation as possible to reduce the human cost of creating models, creating tests, and running tests. Software engineering research is at its best when it helps real software engineers create better software, cheaper.

About the Speaker

Dr. Jeff Offutt is a Professor of Software Engineering at George Mason University. In his 30+ year career in academia, he has led numerous collaborative research projects with funding from government and industry; designed and taught courses and degree programs at all levels; mentored dozens of students and junior faculty; succeeded in leadership roles at university and internationally in research; and won awards that reflected teaching, research, and service. His research results are used widely, and his teaching innovations are copied by many university educators. He has received several awards, including the Outstanding Faculty Award from the State Council of Higher Education for Virginia in 2019, GMU's Teaching Excellence Award in 2013, and Faculty of the Year award from GMU's alumni association for 2020. Offutt earned the PhD in Computer Science from Georgia Tech in 1988. He is on the web at cs.gmu.edu/~offutt/