Computer Science Symposium

"The World's First All-Machine Hacking Competition"
presented by
Dr. Thanassis Avgerinos
April 11th, 7:00PM, Roddy 149

The Cyber Grand Challenge (CGC) was announced in 2013—a first-of-its-kind competition in which fully autonomous systems would compete in a Capture The Flag (CTF) tournament. Starting from over 100 teams consisting of some of the top security researchers and hackers in the world, only 7 teams qualified to the final round. These 7 teams competed against each other to guard their own software with IDS rules and software patches while attacking the other systems. All of this was done without access to program source code nor access to humans.

This never-before-seen level of autonomy demonstrated the state of the art in areas of computer security including static analysis, automated bug finding, automatic exploit generation, and automatic software patching. Over the course of just 10 hours, these systems competed to analyze over 80 totally new pieces of software, showing capabilities beyond what anyone has ever seen before.

"This talk will discuss the Cyber Grand Challenge, explaining what it entailed, what the results mean, lessons learned by the winning team, and how these advances will influence software security in the near future"

Bio

Thanassis Avgerinos grew up in Athens, Greece, where he received his undergraduate degree in Electrical and Computer Engineering from the National Technical University of Athens. In 2009, he moved to Pittsburgh, USA to pursue a PhD in software security and binary program analysis from Carnegie Mellon University. In 2014, after defending his thesis on exploiting tradeoffs in symbolic execution, he started working at ForAllSecure – a startup company he founded with David Brumley and Alexandre Rebert – with the goal of bringing academic research ideas and binary analysis tolls into practice. In 2016, ForAllSecure won the first place and $2 million in the Cyber Grand Challenge, the world's first all-machine hacking competition.

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