

Title: Evil Regular Expressions (or There and Back Again and Again and ...)

Speaker: Willem Bester

Abstract: In backtracking regular expression matchers, catastrophic backtracking occurs when attempting to match certain input strings with the so-called "evil" regular expressions. In essence, the input string forces the matcher to do more computational work than is expected, and in the worst case, the computation time can become exponential in the length of the input string. This leaves the matcher vulnerable to a class of algorithmic complexity exploits called regular expression denial-of-service attacks. This talk is a brief excursion into the theory and some results.

Bio: Without any formal training, Willem worked as a programmer/analyst for eight years in the media industry, with involvement in system programming, web strategising, and full-text data archiving and retrieval. In 2003, he turned to university studies, for an undergraduate degree in Computer Science and Mathematics at the University of Stellenbosch, followed by an honours and a master's degree. After a stint as technical officer at the university, he was appointed as junior lecturer in 2014, and is currently a PhD student under Prof. Brink van der Merwe. Besides his life in academia, Willem is also an active performing musician as a member of the Cape Consort, a group of singers and instrumentalists dedicated to the historically informed performance of early music. Since 2001, he has been a freelance music and theatre critic for Die Burger and Netwerk24, and from time to time, he broadcasts on Fine Music Radio in Cape Town.