SCS Keynote Speaker

Author: Wil van der Aalst, Ph.D.

Presentation Title: Process Mining and Simulation: A Match Made in Heaven!

Presentation Abstract: Event data are collected everywhere: in logistics, manufacturing, finance, healthcare, customer relationship management, e-learning, e-government, and many other domains. The events found in these domains typically refer to activities executed by resources at particular times and for particular cases. Process mining provides a novel set of tools to exploit such data. Event data can be used to discover the real processes, to detect deviations from normative processes, and to analyze bottlenecks and waste. However, process mining tends to be backward-looking. Fortunately, simulation can be used to explore different design alternatives and to anticipate performance problems. Through simulation experiments various "what if" questions can be answered and redesign alternatives can be compared with respect to key performance indicators. However, making a good simulation model may be very time consuming and models may be outdated by the time they are ready. Therefore, process mining and simulation complement each other well. In his talk, Wil van der Aalst will argue that process mining and simulation form

a match made in heaven. He will introduce process mining concepts and show (1) how to discover simulation models, (2) how to view real and simulated event data in a unified manner, and (3) how to make process mining more forward-looking using simulation. He will also explain how his team applied process mining in over 150 organizations, developed the open-source tool ProM, and influenced the 20+ commercial process mining tools available today.

Biography: Prof.dr.ir. Wil van der Aalst is a distinguished university professor at the Technische Universiteit Eindhoven (TU/e) where he is also the scientific director of the Data Science Center Eindhoven (DSC/e). Since 2003 he holds a part-time position at Queensland University of Technology (QUT). Currently, he is also a visiting researcher at Fondazione Bruno Kessler (FBK) in Trento and a member of the Board of Governors of Tilburg University. His personal research interests include process mining, Petri nets, business process management, workflow management, process modeling, and process analysis. Wil van der Aalst has published over 200 journal papers, 20 books (as author or editor), 450 refereed conference/workshop publications, and 65 book chapters. Many of his papers are highly cited (he one of the most cited computer scientists in the world; according to Google Scholar, he has an H-index of 135 and has been cited over 80,000 times) and his ideas have influenced researchers, software developers, and standardization committees working on process support. Next to serving on the editorial boards of over 10 scientific journals he is also playing an advisory role for several companies, including Fluxicon, Celonis, and ProcessGold. Van der Aalst received honorary degrees from the Moscow Higher School of Economics (Prof. h.c.), Tsinghua University, and Hasselt University (Dr. h.c.). He is also an elected member of the Royal Netherlands Academy of Arts and Sciences, the Royal Holland Society of Sciences and Humanities, and the Academy of Europe. Recently, he was awarded with a Humboldt Professorship, Germany's most valuable research award (five million euros), and will move to RWTH Aachen University at the beginning of 2018.