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Process Mining as the Superglue between Data and Process Management

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Abstract: Process mining is able to reveal how people and organizations really function. Often reality is very different and less structured than expected. Process discovery exposes the variability of real-life processes. Conformance checking is able to pinpoint and diagnose compliance problems. Task mining exploits user-interaction data to enrich traditional event data. All these different forms of process mining can and should support Robotic Process Automation (RPA) initiatives. Process mining can be used to decide what to automate and to monitor the cooperation between software robots, people, and traditional information systems. In the process of deciding what to automate, the Pareto principle plays an important role. Often 80% of the behavior in the event data is described by 20% of the trace variants or activities. An organization can use such insights to "pick its automation battles", e.g., analyzing the economic and practical feasibility of RPA opportunities before implementation. This paper discusses how to leverage the Pareto principle in RPA and other process automation initiatives.

BRIEF BIOGRAPHY

Prof.dr.ir. Wil van der Aalst is a full professor at RWTH Aachen University leading the Process and Data Science (PADS) group. He is also part-time affiliated with the Fraunhofer-Institut für Angewandte Informationstechnik (FIT) where he leads FIT's Process Mining group and the Technische Universiteit Eindhoven (TU/e). Until December 2017, he was the scientific director of the Data Science Center Eindhoven (DSC/e) and led the Architecture of Information Systems group at TU/e. Since 2003, he holds a part-time position at Queensland University of Technology (QUT). Currently, he is also a distinguished fellow of Fondazione Bruno Kessler (FBK) in Trento and a member of the Board of Governors of Tilburg University. His research interests include process mining, Petri nets, business process management, workflow management, process modeling, and process analysis. Wil van der Aalst has published more than 230 journal papers, 22 books (as author or editor), 530 refereed conference/workshop publications, and 80 book chapters. Many of his papers are highly cited (he one of the most cited computer scientists in the world and has an H-index of 148 according to Google Scholar with over 100,000 citations) and his ideas have influenced researchers, software developers, and standardization committees working on process support. He has been a co-chair of many conferences including the Business Process Management conference, the International Conference on Cooperative Information Systems, the International Conference on the Application and Theory of Petri Nets, and the IEEE International Conference on Services Computing. He is also editor/member of the editorial board of several journals, including Business & Information Systems Engineering, Computing, Distributed and Parallel Databases, Software and Systems Modeling, Computer Supported Cooperative Work, the International Journal of Business Process Integration and Management, the International Journal on Enterprise Modelling and Information Systems Architectures, Computers in Industry, IEEE Transactions on Services Computing, Lecture Notes in Business Information Processing, and Transactions on Petri Nets and Other Models of Concurrency. He is also a member of the Council for Physics and Technical Sciences of the Royal Netherlands Academy of Arts and Sciences and serves on the advisory boards of several organizations, including Fluxicon, Celonis, Processgold, and Bright Cape. In 2012, he received the degree of doctor honoris causa from Hasselt University in Belgium. He also served as scientific director of the International Laboratory of Process-Aware Information Systems of the National Research University, Higher School of Economics in Moscow. In 2013, he was appointed as Distinguished University Professor of TU/e and was awarded an honorary guest professorship at Tsinghua University. In 2015, he was appointed as honorary professor at the National Research University, Higher School of Economics in Moscow. He is also an IFIP Fellow and elected member of the Royal

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