Zbigniew Michalewicz, Chief Scientist, Complexica, Australia

Talk: *Intelligent Systems – a few examples*

Abstract: The talk is on business applications for transforming data into decisions, based on work at three companies (NuTech Solutions, SolveIT Software, and Complexica) over the last 20 years. A few general concepts would be discussed, illustrated by a few examples - from NuTech, from SolveIT, and from Complexica. The final set of examples would present Complexica's approach for increasing revenue, margin, and customer engagement through automated analysis.

Bio: Zbigniew Michalewicz is the Chief Scientist of Complexica, an Artificial Intelligence software company that helps large organisations sell more products and services, at a higher margin, through the use of automated analytics. He is also Emeritus Professor at the School of Computer Science, University of Adelaide and holds Professor positions at the Institute of Computer Science, Polish Academy of Sciences, at the Polish-Japanese Academy of Information Technology, and an honorary Professor position at State Key Laboratory of Software Engineering of Wuhan University, China. He is also associated with Structural Complexity Laboratory at Seoul National University, South Korea. In December 2013 he was awarded (by the President of Poland, Mr. Bronislaw Komorowski) the Order of the Rebirth of Polish Polonia Restituta - the second highest Polish state decoration civilian (after the Order of the White Eagle), awarded for outstanding achievements in the field of education, science, sports, culture, arts, economy, national defence, social activities, the civil service and the development of good relations with other countries. He also received the 2019 IEEE CIS Evolutionary Computation Pioneer award which recognises his significant contributions to early concepts and sustained developments in the field of evolutionary computation.

For many years his research interests were in the field of evolutionary computation. He published several books, including a monograph *Genetic Algorithms + Data Structures = Evolution Programs* (3 editions, a few translations, over 18,300 citations, source: Google Scholar), and over 250 technical papers in journals and conference proceedings that are cited widely (over 40,000 citations, source: Google Scholar). He was one of the editors-in-chief of the *Handbook of Evolutionary Computation* and the general chairman of the First IEEE International Conference on Evolutionary Computation held in Orlando, June 1994.

Zbigniew Michalewicz has over 35 years of academic and industry experiences, and possesses expert knowledge of numerous Artificial Intelligence technologies. He was the co-Founder and Chief Scientist of NuTech Solutions, which was acquired by Netezza and subsequently by IBM, and the co-Founder and Chief Scientist of SolveIT Software, which was acquired by Schneider Electric after becoming the 3rd fastest growing company in Australia. Both companies grew to approximately 200 employees before they were being acquired.

During his time in the corporate world, Zbigniew Michalewicz led numerous large-scale predictive analytics and optimisation projects for major corporations, including Ford Motor Company, BHP Billiton, U.S. Department of Defence, and Bank of America. Professor Michalewicz also served as the Chairman of the Technical Committee on Evolutionary Computation, and later as the Executive Vice President of IEEE Neural Network Council.