



**SOUTH AFRICAN
COUNCIL FOR AUTOMATION
AND CONTROL**



SAIMM
THE SOUTHERN AFRICAN INSTITUTE
OF MINING AND METALLURGY

Topic:

An Introduction to Supervised Learning in the MMM Industry

Date: 12 June 2024

Time: 10:00-11:00 | Online via Zoom

ECSA Validated CPD Activity, Credits = 0.1 points per hour attended.

About the Webinar

Supervised learning is a branch of artificial intelligence/machine learning where input objects and a desired output value are used to train a model. A typical example would be an online model for the grade or recovery of a circuit, i.e. a soft sensor. Supervised learning can also be used for classification, where we may want to know what to know what state a certain part of the circuit is in.

There has been an explosion in the number of algorithms available to perform such modelling. One popular package has twenty algorithms for regression available. The challenge, after data cleaning, becomes choosing a suitable algorithm and then evaluating the results before possible online deployment. The talk will cover these topics using examples from work being performed at the Data Analytics Numerics and Control Engineering (DANCE) group at the School of Chemical and Metallurgical Engineering at the University of the Witwatersrand.

Speakers:



Dr Kevin Brooks

Director, APC Smart

Visiting Adjunct Professor, School of Chemical and Metallurgical Engineering,
University of the Witwatersrand, Johannesburg, South Africa

Bio:

Kevin obtained his B.Sc (Chemical Engineering) in 1980 and his PhD in 1986 from Wits, where he lectured until 1990. He joined Honeywell Hi-Spec Solutions in 1995, working in dynamic modelling, advanced process control (APC), and optimization. He was the Engineering Leader for APC and led projects in South Africa and Europe, mainly Eastern Europe. In 2007, Kevin moved to BluESP, the Aspentech distributor for South Africa, as a principal consultant and later chief engineer. In this capacity, he performed projects in ethylene and fuel gas network optimization and, together with Anglo Platinum, pioneered the application of APC in mining. In 2021, he formed APC Smart to mentor and train upcoming APC engineers and provide profit improvement programs and project implementation in APC.

In 2019, he was appointed visiting and subsequently honorary adjunct professor at Wits. Kevin is a co-leader of the data analytics, numerics and control engineering (DANCE) research group and co-supervises fourteen graduate students. He has been on the Exco of the South African Council for Automation and Control since 2007. He was president in 2013 and 2014, including hosting the very successful IFAC World Congress in Cape Town. He was appointed chair of the IFAC Industry Committee in 2023.

FOR FURTHER INFORMATION, CONTACT:

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