

THE DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING SPEAKER SERIES

PRESENTS

Automating Subsurface Model Building Using Deep Learning



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LECTURE ABSTRACT

In recent years we have seen great achievements accomplished by artificial intelligence (AI) and machine learning (ML), in various areas. Driven by the advances in the GPU technology, cloud computing, and the rapidly increasing data volumes within the geoscience applications, the energy industry has recognized and embraced the tremendous potential of AI/ML. Early research and development utilizing these algorithms for geoscience applications have shown encouraging and promising results. In this webinar we will discuss a variety of highly successful geoscience applications that leverage AI/ML algorithms to improve efficiency, accuracy, and to automate workflows, and to explore a new way of extracting values from geoscience data. Specifically we will focus on the automated evergreen subsurface model building workflow utilizing seismic, wellbore and other geophysical data for deriving 3D subsurface models. A case study result will be discussed.

SPEAKER BIOSKETCH

Aria Abubakar was born in Bandung, Indonesia. He received an M.Sc. degree in electrical engineering in 1997 and as well as a Ph.D. in computational sciences in 2000, both from the Delft University of Technology, The Netherlands. He joined Schlumberger-Doll Research in Ridgefield, CT, USA in 2003, where he remained for 10 years, ending his tenure as a scientific advisor and the manager of the Multi-Physics Modeling and Inversion Program. Aria is currently the head of Data Science for the Digital Subsurface Solutions. His main responsibility is to oversee and coordinate the utilization of artificial intelligence, machine-learning and data-analytics technology for subsurface applications throughout Schlumberger. Aria was the 2014 SEG North America Honorary Lecturer and the 2020 SEG-AAPG Distinguish Lecturer. He holds 40 U.S. patent applications, has published five book/book chapters, and written more than 100 scientific articles in journals, 200 conference proceedings papers, and 60 abstracts.

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