



# DAYALBAGH EDUCATIONAL INSTITUTE (DEEMED TO BE UNIVERSITY)

## DIAMOND JUBILEE MEMORIAL LECTURE



### PROF. KALYANMOY DEB

HERMAN E. AND RUTH J. KOENIG ENDOWED CHAIR PROFESSOR  
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING  
MICHIGAN STATE UNIVERSITY, USA.

### QUEST FOR KNOWLEDGE:

**EXPLAINING HOW CERTAIN AI SYSTEMS WORK**  
**6:30 AM IST, SATURDAY, 06 FEBRUARY 2021.**

#### About the Speaker

Kalyanmoy Deb is Koenig Endowed Chair Professor at Department of Electrical and Computer Engineering in Michigan State University, USA. Prof. Deb's research interests are in evolutionary optimization and their application in multi-criterion optimization, modeling, and machine learning. He has been a visiting professor at various universities across the world including University of Skövde in Sweden, Aalto University in Finland, Nanyang Technological University in Singapore, and IITs in India. He was awarded IEEE Evolutionary Computation Pioneer Award for his sustained work in EMO, Infosys Prize, TWAS Prize in Engineering Sciences, CajAstur Mamdani Prize, Distinguished Alumni Award from IIT Kharagpur, Edgeworth-Pareto award, Bhatnagar Prize in Engineering Sciences, and Bessel Research award from Germany. He is fellow of IEEE, ASME, and three Indian science and engineering academies. He has published over 552 research papers with Google Scholar citation of over 152,000 with h-index 124. He is in the editorial board on 18 major international journals.

For more, visit <https://www.egr.msu.edu/~kdeb/>

#### About the Lecture

A constant quest to know the world around has provided an evolutionary advantage to the homo-sapiens. With the advancement of a new technology, human mind has not only been interested in "how", but also with a more difficult question "why". In the Diamond Jubilee Memorial Lecture, a fast-growing topic in Artificial Intelligence (AI) will be discussed: Explainable AI. In numerous control system problems, Prof. Deb will present an evolutionary optimization-based procedure which can find simple and interpretable decision-tree based rules to explain why a more complex AI-based system works so well. The procedure is currently under development at the COIN Lab at Michigan State University and has the potential to be applied for complex tasks, such as autonomous vehicle controllers and games.

