COMPREHENSIVE DISCUSSION ON MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE WITH SPECIAL REFERENCE TO ESSENTIAL MATHEMATICS

K. Munusamy

Department of Computer Science &AI&DS, Excel College for commerce and science, Komarapalayam, Namakkal, Tamilnadu.
Email: K.munusamy65@gmail.com

Pratik S. Patel

School of cyber-Security and Digital Forensic, National Forensic Sciences University, Gujarat.
Email: pratik.patel.mscit@gmail.com

S. Kalaiselvi

Department of Mathematics, University College of Engineering BIT Campus, Anna University, Tiruchirappalli, Tamilnadu.
Email: drskalaiselvi16@gmail.com

G.Veeramalai

Department of Mathematics, M.Kumarasamy College of Engineering (Autonomous)- Karur. Tamilnadu.
Email: veeramusiri@gmail.com

M. Praneesh

PG & Research Department of Computer Science, Sri Ramakrishna College of Arts & Science, Coimbatore, Tamilnadu.
Email: raja.praneesh@gmail.com

Harishchander Anandaram

Amrita School of Artificial Intelligence, Coimbatore, Amrita Vishwa Vidyapeetham, India.
Email: a_harishchander@cb.amrita.edu

Abstract

Scientists have been endeavoring to unravel the mechanisms of human cognition, including the processes and principles that govern our thinking, understanding, and ability to make predictions, for millennia. The science of artificial intelligence progresses by striving to operationalize intelligence in machines. Artificial Intelligence (AI) is a field of research and engineering that was established in 1956 by cognitive scientist Marvin Minsky. It encompasses the development and study of technology that aims to simulate human intelligence. Machine Learning is a branch of Artificial Intelligence that was created via the use of mathematical modeling of neural networks. This article explores the mathematical foundations of modern AI and ML, as well as the significant achievements it has made up to this point.

Keywords: AI, ML, optimization, model.