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Artificial Intelligence for Cloud Computing

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Abstract : Artificial intelligence is being increasingly incorporated into many applications across various sectors such as health, education, security, and agriculture. Recently, there has been rapid development in cloud computing technology, resulting in AI's implementation into cloud computing to enhance and optimize the technology service rendered. The deployment of AI in cloud-based applications has brought about autonomous computing, whereby systems achieve stated results without human intervention. Despite the amount of research into autonomous computing, work incorporating AI/ML into cloud computing to enhance its performance and resource allocation remain a fundamental challenge. This paper highlights different manifestations, roles, trends, and challenges related to AI-based cloud computing models. This work reviews and highlights excellent investigations and progress in the domain. Future directions are suggested for leveraging AI/ML in next-generation computing for emerging computing paradigms such as cloud environments. Adopting AI-based algorithms and techniques to increase operational efficiency, cost savings, automation, reducing energy consumption and solving complex cloud computing issues are the major findings outlined in this paper.

Keywords : artificial intelligence, cloud computing, deep learning, machine learning, internet of things
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