

Edge Computing: Enhancing the Internet of Things

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Abstract. Edge computing is transforming the Internet of Things (IoT) by processing data closer to the source, reducing latency and bandwidth usage. This article explores the benefits of edge computing, including improved response times and enhanced data privacy. We examine real-world applications and discuss the challenges of implementing edge computing solutions at scale.

Keywords: Edge Computing, Internet of Things, Data Privacy, Latency Reduction, Cloud Computing

Introduction

The Internet of Things (IoT) has led to an explosion of connected devices generating vast amounts of data. Edge computing offers a solution to the challenges posed by this data deluge by processing information closer to the source rather than relying on centralized cloud servers. This approach reduces latency, conserves bandwidth, and enhances data privacy and security. In this article, we explore the advantages of edge computing in IoT environments, examining case studies that demonstrate its effectiveness in various sectors, from smart cities to industrial automation. Despite its promise, deploying edge computing solutions at scale presents significant technical and logistical challenges.

This is a preliminary version. To read the full version of the article, please purchase a subscription.

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