Foreword

In the past decade, business and research organizations across the world switched towards digital transformations and scientific innovations to grow in the competitive era of information and communication technology (ICT). These organizations are adopting latest technologies like Cloud computing, big data analytics, the Internet-of-things (IoT) as also other innovative strategies to move forward in the business and science processing. The convergence of these technologies can be seen with increasing adoption and development.

Cloud computing provides on-demand computational and storage resources to individuals or organizations without any requirement of building and maintaining in-house computational infrastructures, with the delivery of information technology (IT) services including software, infrastructure, and platform through Internet-based applications which users can access remotely. Thus, Cloud computing is characterized as a technology owing dynamicity, provisioning and cost-saving potential, and indeed a viable alternative for big businesses and collaborations across the globe.

Big data is a term which signifies large datasets coming from a myriad of resources and characterized by its volume, variety, and velocity. Big data analytics involves mapping the structured and unstructured data to gain better insights, thus providing a completely different dimension to the field of data analytics. Cloud-based applications are significantly contributing to the bulk of data generation while at the same time, provide a powerful abstraction for scalable big data processing systems with enhanced reliability and availability.

IoT establishes an ecosystem of smart and inter-connected devices having the capability of communicating and transferring data over the Internet with minimal or no human intervention. This idea of inter-connected things has empowered businesses and consumers by providing them with enhanced control and better solutions. IoT devices generate a massive amount of data, in turn can be fed to the data processing tools and applications to create logic workflows for these devices to work in a smart fashion.

I believe that *Handbook of Research on Cloud Computing and Big Data Applications in IoT* is a valuable addition to existing literature and serving as a source of recent researches in this unceasingly developing area, turning out significant to readers for a valuable contribution to the current subject matter and impressive work. This handbook serves as a handy reference for practitioners and application developers also provides an opportunity for researchers and academicians to explore and understand advanced computing technologies and their impact to conduct more sophisticated studies.

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