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Big data application: Opportunities and challenge

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Like human evolution, most of us have witnessed data evolution too. Chronologically speaking, we have witnessed information in the form of data increasing not only in volume but also in complexity. Alongside, we have also seen advancement of technology and algorithms that are equipped to handle these changes. It is very exciting to see the pace at which we have moved from say, Excel – which had a data limit of 1M rows x 16K columns; to R software – which had a data limit of system RAM; to SAS – which can handle billions of records but the processing becomes slower as the data size gets bigger; to Hive – which is the latest and most widely used software on big data side. So, now that we have large chunks of data and also the capability to handle it, it is only imperative that we see its applications getting transformed to all domains and sectors. Hidden in this big data are various known and unknown patterns and correlations, ideas for competitive advantage, solutions to business problems and new ventures. Big data is nowadays a very common phenomenon and its management and analytics a very common practice. We can see its application in almost all domains like –Credit and Finance: Almost everybody now holds a credit or debit card and every transaction they do gets recorded. Imagine the volume of this data and how much information and insights it would hold. A lot of analytics takes place to understand customer behavior, attrition analysis, market mix models, scorecard development by credit bureaus and much more. Healthcare: Big data application in healthcare is being seen widely in genome studies. From human genetics and pathogen genomics to routine clinical documentation, from internal imaging to motion capture the big Vs of Big Data - volume, variety, velocity and veracity - abound in medicine. Education: Few educational institutions are starting to use big data tools to identify trends that relate to student performance outcomes, while the data analyzed will include everything from bus routes to course selection and college acceptance. Telecommunication: Re-engineering of data integration processes, combating fraud, studying and capitalizing on customer behavior, identifying promotions and up-sell opportunities – all this has become more easy and achievable with all the big data handling capabilities that we have today.The list of applications is exhaustive i.e. agriculture, parking, manufacturing, retail, and IoT where data is growing exponentially. The challenges include not just the obvious issues of extreme performance, scalability and breakthrough economics for Big Data analytics, streaming and other applications that need massive bandwidth and capacity, but also heterogeneity, lack of structure, error handling, privacy, timeliness, provenance, and visualization. Being a speaker for the desired domain in the conference will reveal the new arenas of big data and support and encourage fundamental research towards addressing these technical challenges, if promised benefits of Big Data are to be achieved.

Biography

Sushila Madan is currently working as an Associate Professor in Computer-Science at Lady Shri Ram College Delhi University. She has done her MSc in Applied Maths from I.I.T. Delhi and MTech from BITS Pilani. She did her Research Project in "Security Risk Management in E-commerce funded by UGC. She has taught in Indian and Foreign Universities. To her credit, there are many research papers and reviewer of international journal papers and she has also authored books on Information System Auditing and Controls, Information Technology, E-commerce, Multimedia and Web-Technology and ICT- for Class XI and XII of NCERT. She is also conferred with "Stree Udhyami Award' on 12th March 2015 at Gandhi Smriti Darshan Samiti, Satyagrah Mandap, Delhi.

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