BIG DATA ANALYTICS CENTER

Establishment of research center in the area of Big Data is a sign of entrepreneurial activities of faculty and academic units. Developing research center serves as a focus of scholarly activity and intellectual creativity of the university. It also paves way for interaction with research sponsors, and serves to amplify Acharya Nagarjuna University competitiveness in obtaining research funding in the area of BIG DATA.

Purpose of the Center:

BIG DATAresearch center at Acharya Nagarjuna University will accelerate the pace of scientific and medical discoveries, enterprise and industrial computing and encourage innovation in the design of new data-intensive end-user experiences.

By creating and funding an ecosystem of leading researchers in the field of Big Data and provides a collaborative center such as the ANUBDC for Big Data. The goal is to explore new computational solutions for the questions like how people share, store and manipulate large amounts of data. This will enable the extraction of the right information to gain new additional insights.

In the recent years we are witnessing unprecedented growth in unstructured digital data and this is accelerated further by the rapid increase of mobile Internet devices such as phones, cars and signs, and the projected development of the ‘Internet of Things,’ which will be constantly sensing the world around us.For this massive amount of what is called ‘Big Data’ to be useful, it has to be analyzed and made understandable. Our goal is to innovate and guide this work across multiple fields, from medical to media, to extract meaning from large amounts of data.

The center also aims at finding solutions through research for the contemporary problems being faced by online marketing agencies like Flip-Kart and Amazon. Recently Flip-Kart have announced big millennium day, offering many items at cheaper prices exclusively on one day. This was heavily attracted by millions of customers and tried to grab the opportunity. The serves made available by the company are unable to handle such large data and ultimately they have failed. The company itself expressed their regrets for their failure. There a question arises, have the servers failed or algorithms used have failed. To address such problems the center will have a great potential.

ANU BigData Research Center:

Research at the new ANUBDRC for Big Data is aimed to exploring the challenges and opportunities associated with the massive, unstructured and dynamic nature of Big Data. These Big Data attributes are often a poor fit for relational models of conventional database systems and end-user needs for complex, real-time decision-making stay unmet.

The focus of research is proposed to center around the following fields(i) designing and prototyping hardware and software for storing,managing, processing (ii) understanding and visualizing data (iii) discovering novel algorithms and scalable, co-designed architectural alternatives (iv) innovative ways of optimizing modern processor technology trends such as multicore, manycore and emerging non-volatile memory technologies. The research could impact several areas as of the following.

- **Economic analysis:** Research at the center will make it possible to visualize and better understand factors driving the global economy. It will become

possible for individuals, traders, corporate strategists and government policymakers to combine and analyze streams of real-time data representing financial transactions, social network effects, climate and political developments for faster and better decisions.

- **Healthcare and Life Sciences:** Huge amounts of data need to be processed across the medical community. For example, in the complex area of genetics and gene expression, Big Data analytics could bring the hope of creating more customized treatments for people by making sense of the petabytes of information.
- **Retail**: Today's retail business is a real-time information-driven enterprise. Every customer interaction and movement of a product through a distribution network is measured and used to refine pricing strategies, update inventory decisions and tailor customer incentives. The center's research will focus on how it can help retailers access information that didn't exist before or were too costly or complex, so that they are able to delight the customers with outstanding selection, service and intelligent personalized service.
- **Government:** Safety and security professionals need actionable intelligence that can help predict scenarios that can be utilized in the fields of disaster preparedness, intelligence gathering and even crowd management. The ISTC for Big Data will explore solutions that can help turn their gold mine of data into high-quality information that can increase efficiencies and informed decisions.

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