



NOTICE

One Day Seminar

on

Big Data Analytics : Research Scopes, Issues and Challenges

First Program of University Nodal Centre (Zone 4)

Organized by

B.P.Poddar Institute of management and Technology

in collaboration with

Maulana Abul Kalam Azad University of Technology, W.B.

Date: 9th August, 2017, 12.30 PM onwards

Venue: Auditorium, B.P.Poddar Institute of Management and Technology

The program will be inaugurated by the Honourable Vice Chancellor, Prof. Saikat Maitra.

Interested faculty members, research scholars and final year M.Tech students from related fields are hereby requested to participate in this program.

Last date of registration: 5th August, 2017 (seats are limited)

The link for the registration form is :

<http://www.bppimt.ac.in/nu/Notice/Registration%20form%20univ%20seminar.pdf>

Program Schedule:

12.30-1.30 PM-----Inaugural Session

01.30-2.00 PM-----Lunch

02.00-4.00PM---**Lecture 1: Next-gen internet: IoT, Big Data and Data Science by Prof. Ashish Ghosh,**

04.00-06.00PM---**Lecture 2: A Route through Networks for IoT by Prof. Samiran Chattopadhyay**

Speaker's Short Biography:

Prof. Ashish Ghosh, Professor & former Head, Machine Intelligence Unit, ISI, Kolkata

Ashish Ghosh is a Professor & former Head of Machine Intelligence Unit and the In-charge of Center for Soft Computing Research at the Indian Statistical Institute, Calcutta. Received the B.E. degree in Electronics and Telecommunication from the Jadavpur University, Calcutta in 1987, and the M.Tech. and Ph.D. degrees in Computer Science from the Indian Statistical Institute, Calcutta in 1989 and 1993, respectively. He received the prestigious and most coveted Young Scientists award in Engineering Sciences from the Indian National Science Academy in 1995; and in Computer Science from the Indian Science Congress Association in 1992. He has been selected as an Associate of the Indian Academy of Sciences, Bangalore in 1997; and Hannan University, Japan as a Visiting Faculty during September-October, 1997, September-October, 2004 and October-November, 2008. Also visited Hannan University, Japan as Visiting Professor with a fellowship from Japan Society for Promotion of Sciences (JSPS) during February-April, 2005. During May 1999 was at the Institute of Automation, Chinese Academy of Sciences, Beijing with CIMPA (France) Fellowship. He was a Visiting Researcher at the National Research Center for Information Technology (GMD), St. Augustin, Germany during January-April 2000, and at the Achen University, Germany in September 2010 and May-June 2013 with an European Commission Fellowship. During October-December 2002 he was a Visiting Professor at the University of California, Los Angeles; and during December 2006-January 2007 and April 2014 he was at the Computer Science Department of Yonsei University, Korea. His visits to University of Trento & University of Palermo (Italy) during May-June 2004, March-April 2006, May to June 2007, 2008, 2009, 2010 and 2014 were in connection with collaborative international projects. He also visited various Universities / Academic Institutes and delivered lectures in different countries including South Korea, Poland, Hong Kong and Netherlands.

His research interests include Data mining and big data analysis, Neural networks and deep learning, Video and colour image analysis, Pattern recognition and machine learning, Remotely sensed image analysis, Medical image analysis, Automatic target recognition, Natural Computation, Bioinformatics and Computational biology. He has already published more than 200 research papers in internationally reputed journals and referred conferences, has edited 8 books, and is acting as a member of the editorial board/associate editor of various international journals. He served in the capacity of Keynote Speaker, Plenary Speaker, Program Chair, Tutorial Chair, and as member of programme committees of many international conferences also.

He is a member of the founding team that established the National Center for Soft Computing Research at the Indian Statistical Institute, Kolkata in 2004 with funding from the Department of Science and Technology (DST), Govt. of India.

Prof. Samiran Chattopadhyay, Professor, Department of IT, Jadavpur University

Samiran Chattopadhyay is a professor in the Department of Information Technology, Jadavpur University. He has served as the head of the department for more than twelve years and as the Joint Director of the School of Mobile Computing and Communication since its inception. A graduate, post graduate and gold medalist from Indian Institute of Technology, Kharagpur he received his Ph.D Degree from Jadavpur University. He has two decades of experience of serving reputed Industry houses such as Computer Associates, Interra Systems India, Agilent, Motorola in the capacity of technical consultant. He led the development of an open-source C++ infrastructure and tool set for reconfigurable computing, released under the GNU GPL 3.0 license. He has visited several Universities in the United Kingdom as a visiting professor. He has been working on Algorithms for Security, Bio Informatics, Distributed and Mobile Computing, and Middleware. He has authored, edited several books and book chapters. Prof. Chattopadhyay acted as a program chair, organizing chair and IPC

member of over 20 international conferences. He has published more than 120 papers in reputed journals and international peer reviewed conferences.

Lecture 1: Speaker – Prof. Ashish Ghosh

Title: Next-gen internet: IoT, Big Data and Data Science

Abstract:

The Internet used today can be described as a network of computers, which connects one user to others around the globe. Most of the usage and application of the “Internet of Computers” involves human intervention. The future of the Internet would be — a world where manual intervention for the objects on the network could be minimized and its functionalities would be automatic and smart. This internet would not only connect computers and smart phones; it would be a network of smart objects, the “Internet of Things”. These “things” would be smart enough to sense, process and decide a corresponding action, Examples include smart appliances (refrigerator, lights, air conditioners), traffic signals, smart body monitors, etc. The individual objects along with the network would collect process and exchange data strategically. This interconnected network along with all the smart objects working together in correspondence with each other form a larger “Cyber Physical System” (like smart cities, smart hospital, etc). A working CPS would generate tons of data, hence efficient processing and effective use of this data is very crucial. There will be data from everywhere like climate data, social network data, video data, medical data, scientific data, etc. Storing these data for analytics may not always be feasible and analyzing them in real time will also be too difficult. Traditional analysis tools are not well suited to capture the complete essence of this massive data. The volume, velocity and variety is too large for comprehensive analysis, and the range of potential correlations and relationships between disparate data sources are too great for any analyst to test all hypotheses and derive all the value buried in the data. Some algorithms already have good capability of letting computers do the heavy thinking for us in case of smaller data. But, we are striving for more to deal with large volumes of such data in a short time. Therefore, we need to revisit old algorithms from statistics, machine learning, data mining and big data analytics and improvise them to tame such big data. Major innovations in big data analytics are still to take place; but, it is believed that emergence of such novel analytics is to come in near future from various domains.

Lecture 2: Speaker – Prof. Samiran Chattopadhyay

Title: A Route through Networks for IoT

Abstract:

IoT devices are being deployed in almost every possible place be it houses, buildings, campuses, factories, and even in our body. Naturally, no single networking technology can fit all such deployments. This talk will take the audience around several choicest technologies that directly affect device’s hardware requirements and costs. The first obvious networking technology candidate for an IoT device is Wi-Fi, because it is so ubiquitous. Certainly, Wi-Fi can be a good solution for many applications. Almost every house that has an Internet connection has a Wi-Fi router. But it has its own limitation for ever increasing need of power. Another major IoT enabler is the IEEE 802.15.4 standard, released in 2003. Commercial radios meeting this standard provide the basis for low-power systems. This IEEE standard was extended and improved in 2006 and 2011 with the 15.4e and 15.4g amendments. As many of the IoT devices are sensors and are deployed in unsupervised areas, Wireless Sensor Network is a network of choice. A wireless sensor network (WSN) is a collection of distributed sensors that monitor physical or environmental conditions, such as temperature, sound, and pressure. Data from each sensor passes through the network node-to-node. This talk will touch upon certain issues in this regard as well. The last stop in this journey will be a small treatise on Wireless Body Area Network Protocol. The talk will conclude by pointing to future of network technologies in the wake of the IoT revolution.