



Department of Studies in Library and Information Science
University of Mysore, Manasagangotri, Mysore 570 006

INFORMATICS
A PROFESSIONAL SOCIETY

ENDOWMENT LECTURE SERIES
ON DIGITAL LIBRARIES – 11

**From Indexing to Intelligence:
The Evolution in Information
Technology**

Friday, April 25, 2014; 10:30 AM

Venue:
International School of Information
Management (ISiM),
Manasagangotri, Mysore—570 006.

Endowment lecture by:

Dr. Shailesh Kumar

Google, Hyderabad

In the gracious presence of:

Sri N.V. Sathyanarayana

Chairman and Managing Director
Informatics India Ltd., Bangalore

Presided by:

Prof. D. Shrijay Devaraj Urs

Registrar (Evaluation)

University of Mysore, Mysore

You are Cordially Invited

Prof. M. Chandrashekara, Chairman
& Faculty Members and Students

TALK SUMMARY

Ever since the dawn of civilization mankind has been collecting, storing, and interpreting data about itself, its surrounding, and its interaction with its surroundings. The last 50+ years of the Information Technology (IT) revolution has seen an unprecedented growth in our ability to **collect** a wide variety of data (text, speech, images, videos, retail, financial, biological, scientific, etc.) thanks to the evolution of **sensor** and **storage** technologies. Our ability to **utilize** this data has also evolved tremendously during this period thanks to increase in computing power as well as advances in data analysis algorithms.

In this talk we will explore this evolution of IT through three eras:

(i) **Indexing or Information era** that addressed the problem of "instantly accessing" specific records in massive databases (including the Internet). This led to the emergence of library sciences, database technologies, information retrieval systems (including the modern web search engines), and business intelligence tools.

(ii) **Interpretation or Knowledge era** that addressed the problem of the "semantic gap" between what the data appears to be (e.g. pixels in an image) and what it actually means (e.g. objects in the image). This led to the emergence of fields like statistical analysis, machine learning, data mining, natural language processing, and computer vision.

(iii) **Inference or Intelligence era** that is addressing even more fundamental problems of prediction, learning, and most importantly the question of "what is thinking?" and "how does the brain work?"

Through a number of real-world examples we will highlight the key contributions, challenges, and issues addressed in each of these eras leading us to where we are today imagining where we are heading.

SPEAKER BIO



Dr. Shailesh Kumar
Google, Hyderabad

Dr. Shailesh Kumar is a Member of Technical Staff at Google, Hyderabad where he works on Machine Learning, Information Retrieval, Data Mining, and Computer Vision problems for various Google products. Prior to joining Google, he has worked as a Principal Dev. Manager at Microsoft (Bing) Hyderabad, Sr. Scientist at Yahoo! Labs Bangalore, and Principal Scientist at Fair Isaac Research in San Diego, USA.

Dr. Kumar has over fifteen years of experience in applying and innovating machine learning, statistical pattern recognition, and data mining algorithms to hard prediction problems in a wide variety of domains including information retrieval, web analytics, text mining, computer vision, retail data mining, risk and fraud analytics, remote sensing, and bioinformatics. He has published over 20 conference papers, journal papers, and book chapters and holds over a dozen patents in these areas. Dr. Kumar received his PhD in Computer Engineering in 2000 (with a specialization in statistical pattern recognition and data mining) and Masters in Computer Science in 1997 (with a specialization in artificial intelligence and machine learning), both from the University of Texas at Austin, USA. He received his B.Tech. in Computer Science and Engineering from the Institute of Technology, Banaras Hindu University in 1995.

Webpage of the speaker @
<http://research.google.com/pubs/ShaileshKumar.html>

ENDOWMENT LECTURES ON DIGITAL LIBRARIES: A LOOK BACK

- The Inaugural lecture was delivered by Prof. S. Sadagopan, Director, Indian Institute of Information Technology, Bangalore on "Beyond Search Engines: Putting information back in the centre stage of information technology" held on 10th November 2001.
- The second lecture was delivered by Prof. N. Balakrishnan, Head, Division of Information Sciences, Indian Institute of Science, Bangalore on "Digital Library: Technology, Law, the Society and the four Cs" held on 24th October 2002.
- The third lecture was delivered by Prof. Jayanth R. Haritsa, Supercomputer Education & Research Centre & Department of Computer Science & Automation Indian Institute of Science, Bangalore on "Privacy - Preserving Data Mining" held on 27th August 2004.
- The fourth lecture series was delivered by Dr. P. Ananda, Managing Director, Microsoft Research Lab India Private Limited, Bangalore, on "Making Visual Media Interactive" held on 10th October 2005.
- The fifth lecture series was given by Prof. Vijay. V Raghavan, Distinguished Professor of Computer Science, the Centre for Advanced Computing Studies, University of Louisiana, Lafayette, USA, on "Text mining for Knowledge Discovery from Biomedical Digital Libraries" held on 27th March 2008.
- The sixth lecture was by Dr. Chintan Mehtha, Director, India Incubation "Cellar", Yahoo India Research & Development Bangalore on the topic "Managing Innovations" held on 6th March 2009.
- The seventh lecture was by Prof. Srinivas Ramani, PhD, of International Institute of Information Technology, 26/C, Electronic City, Hosur Road, Bangalore 560 100 on the topic "Structured Information and information Technology" held on 10th February 2010.
- The eighth lecture was by Sri. Raghavendra U. Udapa of Microsoft Research India, Bangalore on the topic "Technology for the Multilingual World" held on 30th April 2011.
- The ninth lecture was by Dr. N. R. Srinivasa Raghavan, Senior Vice President-Advanced Analytics, Global Decision Management, Citicorp Bangalore on the topic "Changing Face of Research in the Digital World" held on 19th May 2012.
- The tenth lecture was by Dr. Douglas W. Oard, University of Maryland, USA on the topic "Beyond the Document: Information Access for Conversational Content" held on 19th March 2013.