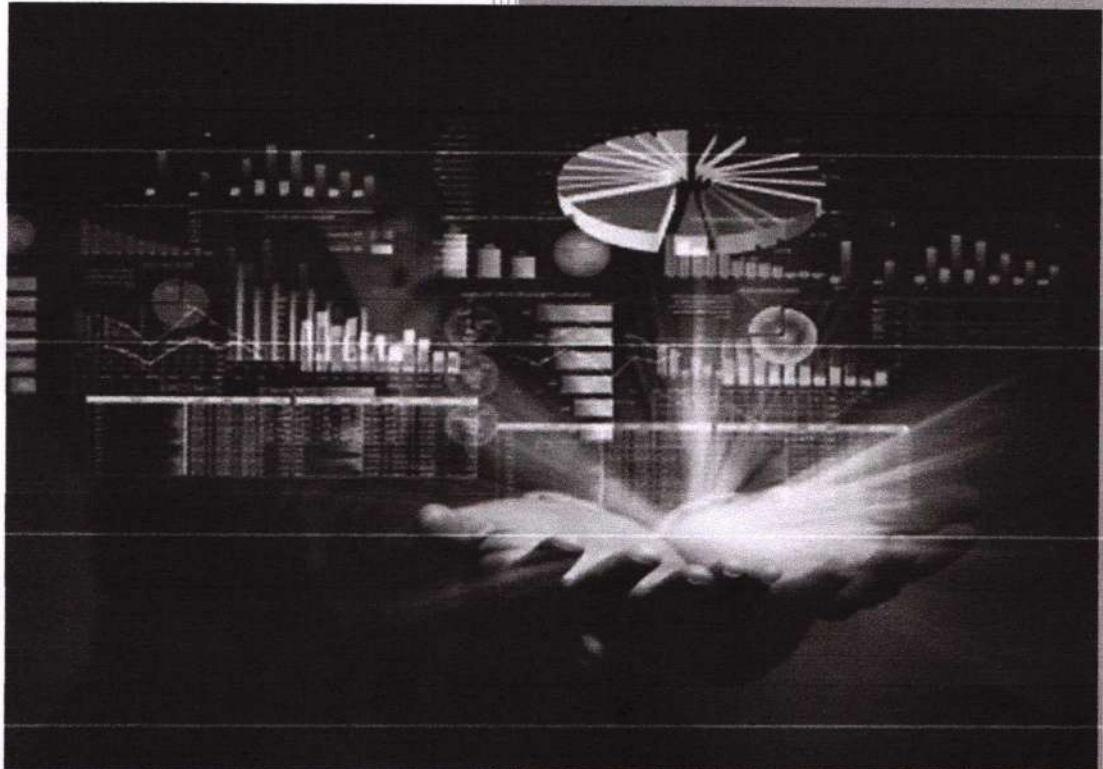


Report

Short Term Course on "Research Challenges in Data Analytics"

6th to 13th December 2018



Department of Computer Science & Engineering

Sree Chitra Thirunal College of Engineering

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Sree Chitra Thirunal
College of Engineering
Trivandrum - 18

Sponsored by

APJ Abdul Kalam Technological University

Approved by

Directorate of Technical Education



1. COURSE OBJECTIVE

The main objective of the course is to learn the tools and techniques used for data analytics and to promote the research in the area of data analytics.

2. COURSE OUTCOME

At the end of this course, the participants should be able to formulate research problems related to data analytics and to identify the research challenges in data analytics.

3. COURSE CONTENTS

Social network analysis focuses on the analysis of pattern of relationships among people, organizations, states and different social entities. The rapid growth of consumer data combined with the impact of social media has created a need to understand the meaningful data. Social network analysis has already been used in a number of areas, primarily focused on criminal activities. Analysis of Big data can lead to increase in sales, fraud detection, pattern recognition and risk prediction in various domains. Social network analysis can be used to detect patterns, establish linkages between individuals and to connect non-obvious relationships. The research works are being carried out in the area of finding the communities from multi-relational social network data for identifying criminals and to detect abnormal behaviors.

The tools and techniques used for analyzing the data posted in social networks are to be familiarized for analyzing the data. The different topics covered in this course includes Scope of Research in Data Analytics, Big Data Security, Research challenges in Data Analytics, Tools and Techniques used for analyzing Big Data, Probability, Plausibility measure, Possibility and necessity measure, Processing and Analysis of data with Hadoop, Spark, Storm Data Analytic tools and Programming using R language. Hands on training sessions were handled for familiarizing the usage of the tools for data analytics, analysis of data with Hadoop, Spark and storm and applications were demonstrated using R language.

4. RESOURCE PERSONS

External Faculty:

1. Dr. Madhu Kumar, Professor, Department of Computer Science, NIT Calicut
2. Dr. Priya Chandran, Professor, Department of Computer Science, NIT Calicut
3. Sri. Sreejith V., Technology Architect, TCS, Kochi
4. Dr. Anu Mary Chacko, Assistant Professor, Department of Computer Science, NIT Calicut


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5. Prof. Vysakh R., Research Scholar, Department of Computer Science, NIT Calicut and Asst. Professor, Department of Computer Science, RajaGiri Institute of Technology, Kakkanad
6. Sri. Brijesh Madhvan, CEO – Curvlogic, Technopark
7. Sri. Hiran Bose, Principal Engineer, CDAC, Technopark
8. Dr. Jiji C. V., Principal, College of Engineering, Trivandrum
9. Sri. Pankaj Kumar, Assistant Professor, Department of Computer Science, Federal Institute of Science and Technology, Angamali

Internal Faculty for handling the lab sessions along with external faculty

1. Dr. Jayasudha J. S.
Professor in Computer Science and Dean (Academic),
Sree Chitra Thirunal College of Engineering,
Pappanamcode
2. Rejimoan R.,
Asst. Professor,
Department of Computer Science & Engineering
Sree Chitra Thirunal College of Engineering,
Pappanamcode

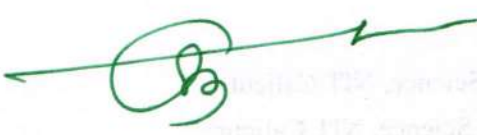
5. PARTICIPANTS

Total number of participants are 36 (External participants : 28 and internal participants : 8). External participants were working in different engineering colleges under the APJ Abdul Kalam Technological University Kerala. The participants are faculties from various engineering colleges under the APJ Abdul Kalam Technological University Kerala and other reputed Universities.

No. of External Participants : 28

No. of Internal Participants : 8

Total No. of Participants : 36


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6. Programme Schedule

RESEARCH CHALLENGES IN DATA ANALYTICS

(6th December to 13th December 2018)

Date	9.30 to 9.45	9.45 to 11.10	11.20-11.45	11.45 to 1:00	1.45-3.00	3.10-5.15
6/12/18 Thursday	Registration	Introductory Talk on "Data Analytics" (Dr. Madhu Kumar, NIT)	Inaugural Address by (Dr. Shashi Tharoor M.P.)	Scope of Research (Dr. Madhu Kumar, NIT)	Techniques used for Analyzing Big Data (TCS)	Research Challenges on Data Analytics (Dr. Priya Chandran, NIT)
7/12/18 Friday	Tools for Big data Security (Prof. Anu Mary Chacko, NIT)		Exploratory Data Analysis using R Language (Prof. Vysakh, NIT)		Hands on Session - R Language (Prof. Visakh, NIT)	Big data analytics using R (Prof. Visakh, NIT)
10/12/18 Monday	Deep Neural Networks (Sri. Brijesh Madhavan, Curvlogic)		Long short term memory (Sri. Brijesh Madhavan, Curvlogic)		Long short term memory (Sri. Brijesh Madhavan, Curvlogic)	Data analysis using cyber forensic tools (CDAC)



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12/12/18 Wednesday	Hands on session on Tools used for Data analysis (CDAC)	Hands on session on Tools used for Data analysis (CDAC)		Processing and Analysis of data using Hadoop (Sri. Pankaj Kumar, FISAT)	Hands on session : Analyzing data using Hadoop (Sri. Pankaj Kumar, FISAT)	
13/12/18 Thursday	Probability and Plausibility Measure (Dr. Jiji, CET)	Possibility and Necessity Measure (Dr. Jiji, CET)	Process ing of data using Spark (Sri. Pankaj Kumar FISAT)	Hands on session: data analysis using Spark (Sri. Pankaj Kumar FISAT)	Process ing of data using Storm (Sri. Pankaj FISAT)	Vale dict ory cere mon y

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8. Details of sessions handled by External Resource Persons

1. Dr. Madhu Kumar, Professor, Department of Computer Science, NIT Calicut has handled introductory talk on "Data Analytics" from 9.45 to 11.10 am and handled session on "Scope of Research" from 11.45 am to 1 pm on 6th December 2018.
2. Sri. Sreejith V., Technological Architect, TCS, Kochi has handled session on "Techniques used for analyzing Big data" from 1.45 to 3 pm on 6th December, 2018.
3. Dr. Priya Chandran, Professor, Department of Computer Science, NIT Calicut has handled session on "Research Challenges on Data Analytics from 3.10 to 5.15 pm on 6th December 2018.
4. Dr. Anu Mary Chacko, Assistant Professor, Department of Computer Science, NIT Calicut has handled session on "Tools for Big Data Security" from 9.30 to 11.10 on 7th Dec 2018.
5. Prof. Vysakh R., Research Scholar, Department of Computer Science, NIT Calicut and Asst. Professor, Department of Computer Science, RajaGiri Institute of Technology, Kakkanad has handled session on "Exploratory Data Analysis using R Language from 11.20 to 1.00 and "Hands on session on R Language" from 1.45 to 3 and Big data analytic using R from 3.10 to 5.15 on 7th Dec 2018
6. Sri. Brijesh Madhvan, CEO – Curvlogic, Technopark has handled session on "Deep Neural Networks" from 9.30 to 11.10 and "Long Short Term Memory" from 11.20 to 1.00 & from 1.45 to 3.00 on 10th Dec 2018
7. Sri. Hiran Bose, Principal Engineer, CDAC, Technopark has handled session on "Data Analysis using cyber forensic tools" from 3.10 to 5.15 on 10th Dec 2018 , "Hands on session on tools used for data analytics" from 9.30 to 11.10 & 11.20 to 1.00 on 12th Dec 2018.
8. Dr. Jiji C. V., Principal, College of Engineering, Trivandrum has handled session on "Probability and Plausibility Measure" from 9.30 to 11.10 & 11.20 to 1.00 on 13th Dec 2018
9. Sri. Pankaj Kumar, Assistant Professor, Department of Computer Science, Federal Institute of Science and Technology, Angamali has handled session "Processing and analysis of data using Hadoop" from 1.45 to 3.00, "Hands on session :Analysing Data using Hadoop" from 3.10 to 5.15 on 12th Dec 2018, "Processing of Data using Spark" from 11.45 to 1.00, "Hands on session: data analysis using SPARK" from 1.45 to 3.00 and "Processing of Data using Storm" from 3.10 to 5.10 on 13th Dec 2018

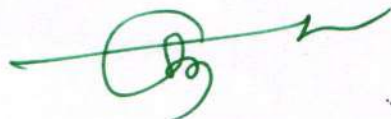


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7. List of Coordinators & Technical assistants

1. Centre Coordinator **Dr. K. Prabhakaran Nair**
The Principal
Sree Chitra Thirunal College of Engineering
2. Course Coordinator
 1. **Dr. Jayasudha J.S.**
Professor, Dept. of Computer Science & Engineering
Sree Chitra Thirunal College of Engineering
Pappanamcode
Ph: 9495376533,8848991155, jayasudhajs@gmail.com
 2. **Rejimoan R.**
Assistant Professor, Dept. of Computer Science & Engineering
Sree Chitra Thirunal College of Engineering
Pappanamcode
Ph : 9446459948,9496909948, rejimoan@gmail.com
3. Technical Assistants
 1. Sri. Saji S.
Second Grade Instructor
Dept. of Computer Science & Engineering
Sree Chitra Thirunal College of Engineering
Pappanamcode
 2. Harikumar S.
Second Grade Instructor
Dept. of Computer Science & Engineering
Sree Chitra Thirunal College of Engineering
Pappanamcode
 3. Sri. Sen K.V
Trade Instructor
Dept. of Computer Science & Engineering
Sree Chitra Thirunal College of Engineering
Pappanamcode
 4. Smt. Meena S. R.
Trade Instructor
Dept. of Computer Science & Engineering
Sree Chitra Thirunal College of Engineering
Pappanamcode



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Feedback/ Recommendations

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	Poor	Average	Good	Excellent/ Useful
1. The objectives of the training were clearly defined	1	2	3	4
2. The topics covered were relevant	1	2	3	4
3. The content was organized and easy to follow	1	2	3	4
4. Questionnaire and interactions were encouraged	1	2	3	4
5. The Resource Persons were knowledgeable about the training topics	1	2	3	4
6. The training objectives were met	1	2	3	4
7. Venue was adequate and comfortable	1	2	3	4
8. Quality of Food	1	2	3	4
9. Accommodation	1	2	3	4

Suggestions for improvement:

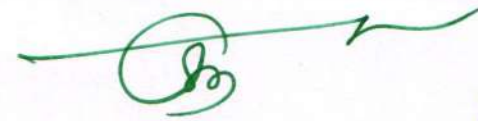
Do you have any suggestions for including new sessions in such courses?

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9. List of Distinguished Officials of College present in the programme during inauguration

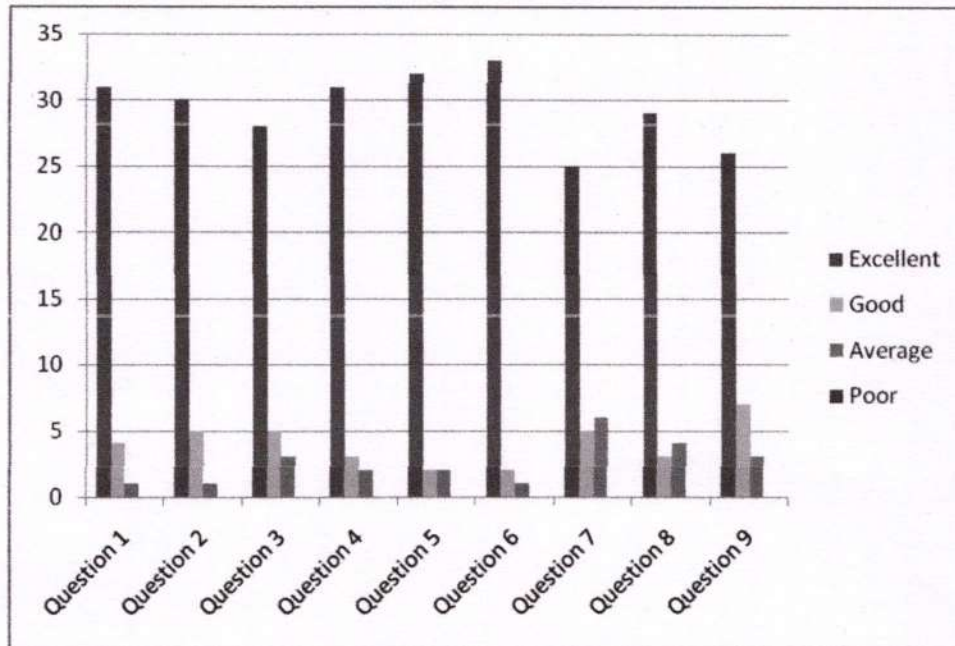
1. Dr. Shasi Tharoor M. P.
Hon'ble Member of Parliament
2. Dr. Prabhakaran Nair,
The Principal
Sree Chitra Thirunal College of Engineering
3. Prof. Sarath Chandradas
PG Dean
Sree Chitra Thirunal College of Engineering
4. Dr. Geetha Kumari B.,
Dean (Planning and Development)
Sree Chitra Thirunal College of Engineering
5. Dr. Mohan G.
Head of the Department
Dept of ME, Sree Chitra Thirunal College of Engineering
6. Dr. Subu Surendran
Head of the Department
Dept of CSE, Sree Chitra Thirunal College of Engineering
7. Dr. Jaya J.B.
Head of the Department
Dept of Applied Sciences, Sree Chitra Thirunal College of Engineering
8. Dr. Libish T. M.
Head of the Department
Dept of ECE, Sree Chitra Thirunal College of Engineering
9. Dr. Sheeja M K
Professor
Dept of ECE
Sree Chitra Thirunal College of Engineering
10. Dr. Soniya B
Professor
Dept of CSE
Sree Chitra Thirunal College of Engineering
11. Dr. Ajith R
Dean (Student affairs)
Dept. of ME
Sree Chitra Thirunal College of Engineering



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FEEDBACK STATISTICS



Recommendations & Suggestions given by participants

- The programme was excellent with good resource persons
- This programme was very useful and informative, similar such programmes are to be organized for including more tools used for analyzing big data.
- Include more hands-on sessions
- Try to pre-load software before starting the lab sessions
- Efficient time management is required

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