

**ONLINE FACULTY DEVELOPMENT PROGRAMME
(FDP) ON
COMPUTATIONAL STATISTICS**

(1st August to 10th August)

Organised by

Electronics & ICT Academy, NIT Warangal
in association with

JSS Science and Technology University,

Sri JAYACHAMARAJENDRA COLLEGE OF ENGINEERING, Mysuru 570 006
(Sponsored by Ministry of Electronics and Information Technology
(MeitY), GOI)



Diamond Jubilee Year
1963:2023

Preamble:

"Electronics & ICT Academy" was set up at NIT Warangal with financial assistance from MeitY, GoI. The jurisdiction of this academy is Telangana, Andhra Pradesh, Karnataka, Goa, Puducherry and Andaman & Nicobar Islands. This academy role is to offer faculty development programmes in standardized courses and emerging areas of Electronics, Information Communication Technologies, training & consultancy services for Industry, Curriculum development for Industry, CEP for working professionals, Advice and support for technical incubation and entrepreneurial activities.

About this FDP:

Computational statistics provides transforming raw data into knowledge and deriving valuable insights from it using computationally intensive statistical techniques like Markov chain Monte Carlo methods, kernel density estimation, re-sampling methods, local regression, artificial neural networks, as well as generalized additive models. Computational Statistics concentrate on making use of computer-intensive statistical methods, especially in situations where there is an extremely large sample size and for non-homogenous datasets. This course will address the concepts of Correlation and regression analysis, Dimensionality Reduction Techniques, Clustering and classification Analysis and Multivariate data analysis.

Major Course Contents:

- **Introduction to Statistics:** Introduction to Statistics Introduction to uni-variate data, Measures of central tendency, Arithmetic mean, Median, Mode, Geometric Mean and Harmonic Mean, Measures of dispersion Range, Quartile deviation, mean deviation, Standard deviation and Co-efficient of variation, Skewness, Kurtosis and Moments
- **Python Essentials:** Installation, Python Editors & IDE's, Lists, Tuples, Dictionaries, Strings, Data manipulation tools, Importing/exporting data.

- **Correlation and regression analysis:** Multivariate Normal Distribution, Multiple Linear Regression Model, Multivariate Regression
- **Dimensionality Reduction Techniques:** Discriminant Analysis, Principal Component Analysis: Factor Analysis:
- **Cluster Analysis:** Introduction, Similarity Measures, Hierarchical clustering methods, Non-Hierarchical
- **Classical Classification techniques:** Deep learning Classification Techniques.

Faculty conducting this programme:

The programme will be conducted in online mode by the faculty members from NIT Warangal; Academicians in the concerned field from IITs/NITs/IIITs are invited to deliver lectures in the programme. Speakers from industries are also expected to deliver as part of the course.

Eligibility:

The programme is open to faculty and Research Scholars of all Engineering Colleges, Universities and other allied disciplines in India. Industry personnel working in the Concerned / Allied discipline can also attend.

Registration Fee Particulars:

Faculty and Research Scholars	Rs. 750/-
Industry Participants	Rs. 2250/-

The fee is to be paid through online transfer using the following details: **Online Transfer Details**

Account Name: **Electronics & ICT Academy NITW**
Account No: **62423775910**
IFSC: **SBIN0020149**
Bank and Branch: **State Bank of India, NIT(REC) Warangal**

PRINCIPAL

G. Narayanamma Institute of
Technology & Science (for women)
(AUTONOMOUS)
Shaikpet, Hyderabad - 500 104

How to apply:

Participants are required to fill in the Online registration form given in the below link:

<https://forms.gle/ZsDJ76ceXu8cZDmJ8>

Selection Criteria:

Selection will be done based on first-come-first-serve basis to a maximum number of 100. Additionally, 10 participants from industry are allowed to participate. The list of selected participants will be intimated through e-mail. Candidates will be issued satisfactory certificates on successful completion of the course. Reservations are followed for selecting candidates as per GOI norms.

Important dates: Last date for Registration	15 th July, 2022
Selection List by E- mail	20 th July, 2022
Duration of the course	01 st August 2022 to 10 th August 2022

About NIT Warangal:

National Institute of Technology, Warangal is the first among 17 RECs setup as joint venture of the Government of India and the state government. Over the years the college has established itself as a premier Institute imparting technical education of a very high standard leading to the B.Tech degrees in various branches of engineering, M.Tech and Ph.D programs in various specializations. All B. Tech and M. Tech programmes of NIT Warangal are NBA accredited.

About JSS Science & Technology University:

In accordance with GOK's Vision, JSS Science & Technology University (JSS STU) was established in the year 2016 under JSS MVP with a vision to be an effective instrument in enhancement of knowledge in the society and thus the social transformation, through national focus, global reach & multidisciplinary approaches.

SRI JAYACHAMARAJENDRA COLLEGE OF ENGINEERING:

Sri Jayachamarajendra College of Engineering (SJCE), a constituent college of JSS STU, conceived in 1963, is the dream child of Jagadguru Dr. Sri Shivarathri Rajendra Mahaswamigalavar, the 23rd pontiff of Sri Suttur Mutt. It comes under the aegis of JSS MVP. As one of the leading institutes in India, SJCE has been recognized under the TEQIP and also accredited by National Board of Accreditation (NBA). The institution also has the reputation of academic excellence in professionally oriented programs, and equal proficiency in extra-curricular activities, that makes it a lucrative option for students from all over the country.

Department of Information Science and Engineering:

The Department of Information Science & Engineering was established in the year 2000 with an intake of 60 students. The department has highly qualified faculty members who have rich experience in the area of Data Science, Machine Learning and Computational Intelligence. The faculty members have associated with various reputed International Universities like: Harvard Medical School USA, Nanyang Technological University Singapore, Korean University Seoul, University of Mannheim Germany, Georgia University USA, St.Petersburgh Electro Technical University Russia, University of Genova Italy, Helsinki University of Technology Finland, Bilkent University Turkey and many more. Faculty members of the department have produced more than 200 research articles in the reputed Journals and Conference proceedings. The published papers have high citation index. The department regularly conducts Workshops, Seminars, Symposiums, FDP and Training Programme to keep update with emerging technologies.

Registration Link:

<https://forms.gle/ZsDJ76ceXu8cZDmJ8>

For more details about the FDP please visit:
<https://nitw.ac.in/eict>

FDP Coordinators:

Dr. Vani H Y

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Dr. Vanishri Arun

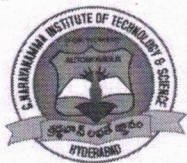
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Dr. Venkateshwara Rao Kagita

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Department of Humanities and Mathematics

2022-2023

REPORT

FDP on " Computational Statistics"

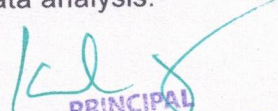
Date of program: 01-08-2022 to 10-08-2022

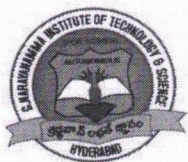
Resource person: 1.Dr. Sudarshan Iyengar, Associate Professor and Head, Department of Computer Science & Engineering, Indian Institute of Technology (IIT) Ropar
2.Dr. RBV Subramanyam, NIT Warangal
3.Dr. M. Sandhya, NIT Warangal
4.Dr. M. Srinivas, NIT Warangal
5. Dr. Sanjaya Kumar Panda, NIT Warangal
6.Dr. Balaprakasa Rao Killi, NIT Warangal
7. Dr. Venkateswara Rao Kagita, NIT Warangal
8. Dr. Ramalinga Swamy, NIT Warangal,
9.Dr. Vikas Kumar from Delhi University,
10 Dr. Vanishri Arun, JSS Science and Technology University, Mysore
11.Dr. Vani H Y, JSS Science and Technology University, Mysore.

About the Program:

Department of Information Science and Engineering, JSS STU in association with Electronics and ICT Academy, NIT Warangal organised Faculty Development Programme on "Computational Statistics" from 1st to 10th August 2022.

Computational statistics provides transforming raw data into knowledge and deriving valuable insights from it using computationally intensive statistical techniques like Markov chain Monte Carlo methods, kernel density estimation, re-sampling methods, local regression, artificial neural networks, as well as generalized additive models. Computational Statistics concentrate on making use of computer-intensive statistical methods, especially in situations where there is an extremely large sample size and for non-homogenous datasets. The FDP addressed the concepts of Correlation and regression analysis, Dimensionality Reduction Techniques, Clustering and classification Analysis and Multivariate data analysis.


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The FDP started with a keynote speech by Dr. Sudarshan Iyengar, Associate Professor and Head, Department of Computer Science & Engineering, Indian Institute of Technology (IIT) Ropar followed by other lectures by Dr. RBV Subramanyam, Dr. M. Sandhya, Dr. M. Srinivas, Dr. Sanjaya Kumar Panda, Dr. Balaprakasa Rao Killi, Dr. Venkateswara Rao Kagita and Dr. Ramalinga Swamy from NIT Warangal, Dr. Vikas Kumar from Delhi University, Dr. Vanishri Arun and Dr. Vani H Y from JSS Science and Technology University, Mysore.

The FDP was coordinated by Dr. Vani H Y and Dr. Vanishri Arun, Department of Information Science and Engineering, JSS Science and Technology University, Mysuru and Dr. Venkateswara Rao Kagita, NIT Warangal.

M. Aparna

Signature of the Faculty member

[Handwritten Signature]
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