

About Network Science Research Group

Network science is a new and emerging scientific discipline that examines the interconnections among diverse physical or engineered networks, information networks, biological networks, cognitive and semantic networks, and social networks. The Network Science Research Group of IIIT Kottayam is an interdisciplinary group of researchers. The research group explores the theory of Complex Networks and is currently focused on understanding how the structure and dynamics of large networks contribute to their robustness. Other interest include the network representation learning, dynamics of Online Social Networks, Functional Brain Networks, and Bibliographic Networks.

Visit us at: <http://netsci.iiitkottayam.ac.in/>

About Data Science Research Group

The Data Science Research Group at IIIT Kottayam focuses on both fundamental research in the field of data science and applied research in areas where data science can provide valuable insights that can be used for decision making. The primary focus of the group is on the creation of algorithmic approaches and methodological workflows for the purpose of achieving scalable solutions in major social, scientific and societal application domains. Additionally, the group is dedicated to the resolution of challenges in implementing data science projects in industry/real-time. Our techniques and solutions are influenced both directly and indirectly by real-world applications and use cases.

Visit us at: <http://dsrg.iiitkottayam.ac.in/>



About IIIT Kottayam

Indian Institute of Information Technology Kottayam at Valavoor, Pala, Kerala is one among the IIITs that have been established as "Institution of National Importance" by MoE, Govt. of India under the ambit of IIIT PPP act 2017. Institute offers 4 year B.Tech and B.Tech (Hons) programs in ECE, CSE, AI and Data Science, and Cybersecurity. In addition, Institute also offers Ph.D programs in ECE, CSE and Mathematics as well as M.Tech programme for the working professionals in (1) AI & Data Science (2) Cyber Security (3) CSE with specialization in Big data and ML.

Certification

Participation certificate will be issued for all the participants who attend the whole session.

E Payment Link for Registration

<https://www.onlinesbi.sbi/sbicollect/icollecthome.htm>

Steps for payment

- Choose the category as Educational Institutions
- Choose payee as IIIT Kottayam
- Choose payment category as Workshop FDP on Data Science with Complex Networks



Five-Day Workshop cum FDP on Data Science with Complex Networks (DataNetWork-2023)

24-28 July 2023

**Organized by
Network Science Research Group and
Data Science Research Group
Indian Institute of Information
Technology, Kottayam**

About the Workshop

In today's data-driven era, understanding the intricate relationships and patterns within complex networks is essential for extracting valuable insights. This comprehensive workshop is designed to bridge the gap between data science and network science.

We are surrounded by numerous networks like social networks, World Wide Web, road networks, power networks, epidemic networks etc. As a result of this intricate web of connections, our world has become increasingly complex. Networks serve as powerful tools for understanding and analysing various complex phenomena. Whether it's studying information cascades, climate change, pandemics, financial crises, or blackouts, these phenomena can all be visualized and examined through the framework of network science. They encompass surprising secrets and they can be revealed with the help of network science theory.

By attending this workshop, students will gain a solid understanding of network centrality, numerical methods, and the fundamentals of machine learning and deep learning, all within the context of complex networks. Discover the significance of network analysis in identifying influential nodes and critical components, and explore how numerical methods can be applied to extract meaningful information from large-scale networks.

Moreover, this workshop is invaluable for students who aspire to undertake projects that link data science with network science. By developing practical skills in network embedding, Python and R programming for networks, and graph mining techniques, participants will be equipped to embark on exciting projects that leverage the combined power of data science and network science.

Join us for this enlightening workshop and unlock the potential of data science with complex networks in solving real-world problems and making data-driven decisions.

Workshop Objectives:

- Connect data science with network science
- Understand network centrality and its significance in identifying influential nodes.
- Learn numerical methods for analyzing large-scale networks.
- Explore machine learning and deep learning fundamentals for network analysis.
- Gain practical skills in network embedding techniques and graph mining.
- Develop proficiency in Python and R for network analysis.
- Enable participants to build projects.

Topics Covered:

- Introducing Network Science
- Network centrality
- Numerical Methods
- Fundamentals of Machine Learning and Deep Learning
- Network Embedding
- Python for Networks
- R for Networks
- Hands-on for Numerical Methods
- Graph Mining

Registration

Registration is open to all (UG and PG Students, Research Scholars, Faculty members of academic institutions, Scientists/Researchers from industries and research organizations.)

Link for Registration:

<https://forms.gle/VhK6PGg7QkYeYauz8>

The last date of registration is: **20 – 07 - 2023**

Registration Fee

- Rs. 2000/- (without accommodation; working lunch included)
- Rs. 3500/- (with food and accommodation)



Organizing Committee

Patrons

- Prof. (Dr.) Rajiv V. Dharaskar, Director, IIIT Kottayam.
- Dr. M. Radhakrishnan, Registrar, IIIT Kottayam.
- Prof. (Dr.) P. Mohanan, Prof. in-Charge (Academics), IIIT Kottayam.

Contact Details

Workshop Coordinators

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