DEPARTMENT OF MATHEMATICS AND STATISTICS

Workshop on
Geo-Spatial Data Science

9th - 14th DECEMBER, 2022
VENUE: IIT TIRUPATI, YERPEDU

"Everything is related to everything else, but near things are more related than distant things."

---Tobler (1970)

Sponsored by

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DEPARTMENT OF
SCIENCE & TECHNOLOGY

IIT Tirupati
Navavishkār
I-Hub Foundation

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About the Workshop

The modern world runs on data, and we deal with large amounts of data almost every day. These data and the results of analysis done with them often influences our daily life. The onset of the computer age has dramatically enhanced the classical methods of data collection and analysis and introduced many new techniques.

Data Science has emerged in the recent past as a distinctive subject and is proliferating. We can see it working its way into other subjects as well. In particular, tools from statistics and machine learning are increasingly being used to study geospatial data resulting in the creation of the field of geospatial data science.

Geospatial data science has become an essential tool for investigating, modeling, interpreting, and managing geospatial data widely available from various sources, including Geographical Information Systems (GIS), Remote Sensing (RS), Global Positioning Systems (GPS), etc. Geospatial modeling facilitates understanding how people, objects, and phenomena interact with each other and predicts with respect to space and time. It is not surprising that geospatial data is steadily growing, having many applications in different sectors, including consumer behavior and movement patterns, precision farming, investment research, risk assessment, competitive intelligence, epidemiology, etc. It is estimated that between 2021 and 2026, the geospatial data will approximately double in size, indicating a large number of recourses required to deal with this vast data.

This workshop will commence with a boot camp on basic tools from data science. Following which, via a series of lectures from leading experts in the field, we will provide the participants an exposure to the world of geospatial data science. They will learn techniques from classical statistical analysis and cutting-edge machine learning and use them to understand geospatial data.

Expected Participants

- Ph.D. and M.S. Scholars.
- M.Tech./M.Sc./B.Tech./B.Sc. Students.
- Faculty members from academic institutions.
- Engineers and researchers from Industry.

Important Dates

- **Registration Ends:** 15-11-2022
- **Notifications of Selected Candidates:** 16-11-2022
- **Registration Link:** https://iittnif.com/gsds-workshop-registration
- **Registration Fee:**
    - ₹ 2500 for Students
    - ₹ 3000 for Research Scholars
    - ₹ 5000 for Faculty and Industry

About IIT Tirupati

Indian Institute of Technology Tirupati (IIT Tirupati) is incorporated under the Institutes of Technology Act, 1961 and having its campus at Yerpedu-Venkatagiri Road, Yerpedu Post, Tirupati District, Andhra Pradesh-517619. It is the first among the 3rd phase of Indian Institutes of Technology, announced in 2014, to have its foundation stone laid in March 2015. IIT Tirupati started functioning with the support of its mentoring institute, IIT Madras, from the academic year of 2015-16. IIT Tirupati is currently offering the programmes: B.Tech, M.Tech, M.Sc, MPP, M.S(Research) and Ph.D. IIT Tirupati has nine departments – Civil & Environmental Engineering, Computer Science & Engineering, Electrical Engineering, Mechanical Engineering, Chemical Engineering, Mathematics & Statistics, Physics, Chemistry and Humanities & Social Sciences. The pedagogy is aimed at nurturing innovation, creativity, quality, teamwork, communication skills, ethics, and societal interaction.

About Technology Innovation Hub at IIT Tirupati

Positioning and Precision Technologies (PPTs) are indispensable tools for monitoring, integrating, and analyzing spatially and temporally distributed resources to aid in effective decision-making across multiple domains. These technologies include remote sensing (non-invasive), Geographical Information Systems (GIS) and Global Positioning Systems (GPS). The Technology Innovation Hub (TIH) primarily focus on Public Private Partnership (PPP) model to generate revenue through: (i) Research and development sponsorship from industries, government and start-ups in form of innovative products and services in PPT; (ii) linkage with industries, accelerators and Venture Capital to create funding ecosystem; (iii) training and consulting; (iv) standards development and policy creation for rapid adaptation of PPT across various stakeholders; and (iv) databank creation across strategic areas of PPT. IIT Tirupati Navavishkar I-Hub Foundation (IITTNiF), a not-for-profit Section-8 company, is set up to host the Technology Innovation Hub (TIH) in Positioning and Precision Technologies (PPT).

Technology Development

Startups and Entrepreneurship

Human Resource and Skill Development

International Collaborations

For more details, please visit
https://iittnif.com

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