



DATA ANALYTICS FOR COGNITIVE ENGINEERING

Under the Karyashala Scheme - A SERB Initiative

March 13-19 2023

Funded By

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Organized By

Visvesvaraya National Institute of Technology Nagpur

ABOUT KARYASHALA

'KARYASHALA' scheme by SERB is meant for skill development training on topics required for scientific research work. It is an effort to improve research productivity of promising PG and PhD students from universities and colleges through highend workshops on specific themes. This program aims to provide opportunities to acquire specialized research skills

ABOUT VNIT, NAGPUR

Visvesvaraya National Institute of Technology Nagpur is one of the thirty-one National Institute of Technology in the country. The Govt. of India conferred on the Institute, the Deemed to be University status (under University Grant Commission Act, 1956) with effect from 26th June 2002. Subsequently, the Central Govt. by Act of Parliament (National Institutes of Technology Act, 2007) declared VNIT Nagpur as an Institute of National Importance along with all former regional engineering colleges. The act was brought into force from 15th August 2007. Earlier, the Institute was known as Visvesvaraya Regional College of Engineering (VRCE). It was established in the year 1960 under the scheme sponsored by Govt. of India and Govt. of Maharashtra. The college was started in June 1960 by amalgamating the State Govt. Engineering College functioning at Nagpur since July 1956. In the meeting held in October 1962, the Governing Board of the College resolved to name it after the eminent engineer, planner, and statesman of the country Sir M. Visvesvaraya.

BRIEF DESCRIPTION ABOUT THE WORKSHOP

Cognitive engineering is a multidisciplinary research domain that focuses on understanding basic cognitive tasks (such as perception, memory and reasoning) to understand situation awareness, decision-making process, planning and mental-workload in industrial settings. With the advent of psychophysiological sensors, it has become possible to peep into the cognitive behavior aspect of the humans when they interact with the complex systems. Based on the cognitive behavior analysis from the sensor data, latent aspect of human mental processing and mental model of the situation can be explored and hence it is possible to evaluate human performance in more insightful way. However, processing of such physiological data present several challenges due to their large scale, high sensitivity to noise, artifacts, and context dependent outcomes. This workshop therefore intends to provide understanding of such challenges and remedial methods from data analytics for specific applications in Human Computer Interaction.

Registration Guidelines

- Registration Fee: *NIL*
- Eligibility: *PG & PhD students of Electrical/Electronics & Communication Engineering or Computer Science or any other relevant specializations. Number of seats are limited to 25.*
- Accommodation for participants may be provided at VNIT Nagpur.
- Students selected for this workshop are eligible for Travel allowance (TA) reimbursement (3rd AC) for their journey to and from VNIT Nagpur as per SERB norms.
- Daily necessary expenses such as stationary, accommodation, food etc. for participants will be covered under the funds approved by SERB as per norms.
- Participants are entitle to a certificate after successful completion of the workshop.

Workshop Coordinators:

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Tentative List of Sessions:

- Role of computational methods to imbibe model of cognition in complex systems
- Eye tracking methods and measures for cognitive behavior analysis during safety critical tasks
- EEG based measures and methods to infer cognitive states
- Role of HCI design for complex system to mitigate human error
- Methods to estimation human performance in HCI
- HCI design in Ship Navigations.

Speakers from: IITs, NITs, IIITs

Important Dates:

Registration Opens: January 15, 2023

Last Date of Application: February 20, 2023

Intimation to Shortlisted Candidates: February 21, 2023

Workshop Dates: March 13-19, 2023

Link to registration:

<https://forms.gle/3LNstnvvERrwyBfv7>

