This short-term course is meticulously designed to provide participants with a comprehensive knowledge of the present landscape of computer vision. It offers an extensive academic exploration of the field's strengths, challenges, and benefits in current applications. Participants will delve into the intricacies of computer vision algorithms, image-processing techniques, and deep learning models, equipping them with the skills to interpret, manipulate, and analyse visual data effectively.

Challenges, such as object recognition under varying conditions, application of various deep learning models in vision will be discussed in-depth. The course will also lay spotlight on the strengths of computer vision, highlighting its capacity to revolutionize human motion understanding, autonomous systems, and augmented reality.

Moreover, participants will gain hands-on experience in developing computer vision applications, providing them with practical skills for handling real-world projects. This course is ideal for students, researchers, and professionals seeking to harness the transformative potential of computer vision and to stay at the forefront of technological innovation.

Course Coverage:

- Reinforcement Learning for Classification of an Imbalanced Dataset.
- Zero Shot Learning for Computer Vision Applications.
- Deep Learning models for Computer Vision.
- Deep Learning in Computer Vision
- On Robustness and Generalization of Computer Vision technology.
- A Gentle Dive into Math Behind Neural Network to Recurrent Neural Network
- Support Vector Machine and its Applications in Computer Vision
- Exploring Attention Models for Visual Question Answering
- Applications of computer vision in Assistive technology.
- Human Motion Understanding with Low-Cost Kinect V2.0 vision Sensor Data
- The Rise and Rise of Biometric Systems
- Audio-Visual Aerial Scene Recognition Using Knowledge Distillation

Lab Sessions:

- Using Keras and Pytorch in computer vision sessions

Key Speakers:

- Dr. Chandra Sekhar, Samsung Research
- Dr. Arijit Sur, IIT Guwahati
- Dr. Ashish Mishra, Hewlett & Packard
- Dr. Nilkanta Sahu, IIIT Guwahati
- Dr. Ratnakar Dash, NIT Rourkela
- Prof. Tandra Pal, NIT Durgapur
- Dr. Puneet Kumar Jain, NIT Rourkela
- Dr. Dhanonjoy Bhakta. IIIT Ranchi
- Prof. Prithwijit Guha, IIT Guwahati
- Dr. Lijiya C, NIT Calicut
- Dr. Anup Nandy, NIT Rourkela
- Dr. Sambit Bakshi, NIT Rourkela
- Dr. Prasenjit Dey, NIT Rourkela, Ex-Intel
- Dr. Achyut Mani Tripathi, IIT Dharwad

National Institute of Technology Rourkela

Short Term Course and Faculty Development Programme
(Hybrid Mode)
On

Recent Trends in Computer Vision (RTCV-2023)

11th - 15th December 2023

Coordinators
Dr. Prasenjit Dey
Dr. Panthadeep Bhattacharjee

Convener
Prof. Bidhudutta Sahoo

Organized By
Dept. of Computer Science and Engineering
National Institute of Technology Rourkela,

Introduction:

In contemporary technology landscapes, computer vision has emerged as a pivotal discipline, enabling machines to comprehend and interpret visual data, effectively bridging the gap between human perception and artificial intelligence. Its manifold advantages are prominently demonstrated in domains such as autonomous driving, healthcare diagnostics, retail optimization, and security enhancements, where it bolsters decision-making, automates tasks, and fortifies safety measures. However, persistent challenges include the demand for robustness across varying environmental conditions, the complexities entailed in managing object occlusion, and the ethical considerations surrounding privacy preservation and algorithmic bias mitigation. Nonetheless, the undeniable merits of computer vision hold the promise of revolutionizing industries, optimizing operational efficiencies, and ushering in innovative applications such as augmented reality, human-computer interaction, and smart urban development. As scholars and technologists grapple with these intricacies, the trajectory of computer vision unfolds with limitless potential for innovation and societal progress.

Online Account Details:

Account No: 10138951784
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Branch: State Bank of India, NIT Campus Rourkela

About the Institute:

National Institute of Technology (NIT), Rourkela is one of the premier national level institutions in our country under MoE, Govt. of India, and is responsible for providing technical education. For knowing further details, please visit **https://www.nitrkl.ac.in/**

39 NIRF Overall	16 NIRF Engg.	24 NIRF Research	281-290 QS Asia

About the Department:

The department of CSE was established with the vision to prepare its students for professional employment and graduate education through study and implementation of the fundamental principles of theory, abstraction, and software design, while at the same time presenting the ethical and social issues associated with computer science.

The department offers various UG courses with a mission to provide high-quality education that prepares the graduates for success in their professional practice and advanced studies. The department also offers M. Tech in Computer Science, Information Security, and Software Engineering; and Ph. D. for regular as well as sponsored candidates.

Please visit https://website.nitrkl.ac.in/CS/

Online Registration Form:

https://docs.google.com/forms/d/14HSaE79j9ER5D7cz3x8BkXLSaKQGSzH7Xpv3vbKM1m0

Registration Details:

Category	Online Registration Fee in INR
Research Scholars/ PG / UG Student	500/-
Faculty from Engineering Institutes	600/-
Engineers from Industry and R&D Organizations	800/-
No registration fee for students / staffs of NIT Rourkela	

Important Dates:

Registration Deadline: 10th December 2023
Short-term Course Date: 11th-15th December 2023

Contact us:

Dr. Prasenjit Dey
Assistant Professor
Ph: 9123363688 (M)
Email: deyp@nitrkl.ac.in

Dr. Panthadeep Bhattacharjee
Assistant Professor
Ph: 9435109581 (M)
Email: bhattacharjeep@nitrkl.ac.in

**Dept. of Computer Science and Engineering,
National Institute of Technology Rourkela – 769008, Odisha.**