Two Week Hybrid

Faculty Development Program

On

Computer Vision and Image Processing using Deep Learning: Research Issues and Applications

19th-30thDecember, 2022

Jointly Organized by

Department

of

Computer Science and Engineering

National Institute of Technology Sikkim

Under the Aegis of

All India Council for Technical Education

New Delhi

About NIT Sikkim

NIT Sikkim is a public, technical and research institute located at Ravangla in the state of Sikkim, India. It was established under the act of Parliament in the year 2010, as a part of the Eleventh Five Year Plan. Since 2010, NIT Sikkim has been successfully catering the needs of thousands of students from all over the country as it aspires to become a globally recognized institution. The institute is offering B.Tech programs in Computer Science and Engineering, Electrical and Electronics Engineering, Electronics and Communication Engineering, Mechanical Engineering and Civil Engineering, and M.Tech programs in Computer Science and Engineering, Microelectronics & VLSI Design and Electrical and Electronics Engineering. The Institute also runs M.Sc. program in Chemistry and Ph.D. programs in all departments. Presently, the institute is working as a temporary campus in Ravangla which is a tourist town that lies between Pelling and Gangtok, and is connected by a national highway to other major towns in the state. The New Jalpaiguri Railway Station and Bagdogra Airport are 124 km and 130 km away from the campus respectively. Ravangla is situated at an elevation of 2100 meters surrounded by the Himalayan terrain, and is internationally famous for tourist spots like Buddha Park, Ralong Monastry, Temi Tea Garden etc.

About the Department of CSE

The department was established in 2010 with the laying of the foundation of National Institute of Technology Sikkim. The department aims to provide and outstanding research environment complemented by excellence in teaching to produce engineering professionals leading a successful career in industry, academics, and entrepreneurial endeavors. The department offers research in the areas of Cloud Computing, Image Processing, Deep Learning, Internet of Things, Wireless Sensor Network, Parallel-Distributed, High-Performance Computing (HPC), Algorithms and Security. The Dept. has good laboratory facility with modern equipment to encourage the students to cope up with latest technologies.

The Department offers B. Tech in CSE, M. Tech in CSE and PhD in Engineering. The department offers B. Tech in CSE with an intake of 45 students/ year, M. Tech with an intake of 22 students/year and Ph. D in Engineering.

Objective of the FDP

The objective of this Faculty Development Program (FDP) is to acclimatize the faculties and researchers with the fundamentals of Deep Learning and its applications in Computer Vision and Image Processing. The FDP will provide a platform for understanding the basic concepts in this domain and gaining hands on experience of the techniques with real world applications. These are future technologies and need in-depth knowledge for active research. This FDP will benefit the participants by promoting their interactions with eminent speakers and experts from IITs, NITs, industries, and premium institution of abroad. The sessions will include various case studies and hands on presentation of innovative applications in these fields. Additionally, FDP will also help the faculties and researchers to inculcate different idea in their teaching and research by attaining the knowledge of the various facets of Computer Vision and Image Processing

FDP Contents

➢ Introduction to Image Processing and Computer Vision.

➢ Introduction to Deep Learning.

➢ Deep Learning in Image Processing and Computer Vision.

➢ Deep Learning Regularization Techniques and Optimization etc.

➢ Computer Vision Applications: Image Classification, Object Recognition and Detection using TensorFlow/ Keras.

Resource Persons

Eminent experts from Industry, Premium Institute from Foreign University, IITs, NITs, CFTIs will share their knowledge and expertise as per the theme of the FDP.

Target Participants

Target participants of this FDP are PG students (M.Tech, PhD scholars), faculty members of the various Engineering Institution and the professionals from industries and research organizations.

Registration

➢ **No registration fees** to attend the FDP; however registration is compulsory for participation.
➢ Seats are limited and it will be filled up on first come first serve basis.
➢ Participants need to apply through AICTE-ATAL portal on or before the last date of registration as mentioned in the AICTE-ATAL portal.
➢ **Follow the following steps to complete the registration:**
Visit https://atalacademy.aicteindia.org/signup and register as a participant by filling your details.

- Select Workshop
- Select State Sikkim
- Select Month
- Select Thrust Area
- Select Mode offline
- Select Computer Vision

Mode of FDP

The FDP course will be organized in a hybrid mode. The accommodation and tariff details will be shared in advance.

Certificate

Certificate will be provided to the participants after conformation and **attendance criteria (80%)** and securing the **minimum eligibility marks (60%)** in the test at the end of FDP.

Contact Person

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Organizing Committee

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