ICAR-Central Institute of Fisheries Education

Panch Marg, Versova, Andheri, Mumbai-400061

Report of the Online Training Programme
"Computer Vision in Fisheries Using Machine Learning"

Date: 8th to 13th July, 2024

A training programme on '**Computer Vision in Fisheries Using Machine Learning** ' was organized by the Fisheries Economics, Extension and Statistics (FEES) Division of ICAR-CIFE, Mumbai, from **8th to 13th July, 2024** under the guidance of Dr. Ravishankar C.N., Director, ICAR-CIFE Mumbai and Dr. N.P. Sahu, Joint Director.

The objective of the training is to leverage computer vision techniques in fisheries, employing machine learning to enhance tasks such as fish detection, species classification, and population monitoring, ultimately contributing to sustainable fishery practices and resource management.

A total of 12 participants (7 males and 5 females) participated in this training programme. Trainees were Retired Senior Officer from NABARD, Head Office, Mumbai, Faculty/ Officers from Ramaiah Institute of Technology, Bengaluru, Central University of Kerala, College of Fisheries Science, Veraval, Gujarat and 7 from ICAR-CIFE, Mumbai.

The training programme comprised 6 lectures and 4 practical sessions. The topics included in the training programme were, 'Basics of Python & Introduction to Different Python-based Environments; Introduction to Various Fields of Artificial Intelligence, Generative AI; Basics of Computer Vision (CV) & Machine Learning and associated some algorithm; Object detection and Classification using CNN; Empirical Mode Decomposition-ARIMA and ANN; SVM and Bayesian classifier; Different Machine learning algorithms, object detection, classification & Extraction; Practical Classes on Classification & Prediction of Objects; Classification using the Robo- flow Platform; Detection of object; Case Studies of Different AI-ML works in the Fisheries sector. In addition, recorded lecture videos were shared for better understanding and knowledge retrieval. Participants also presented brief concept notes related to their area of interest in AI field.

Pre-training and post-training assessments of the participants were recorded to assess the effectiveness of the training programme with reference to the knowledge level of the trainees. The results showed significant improvements in the knowledge of the participants.

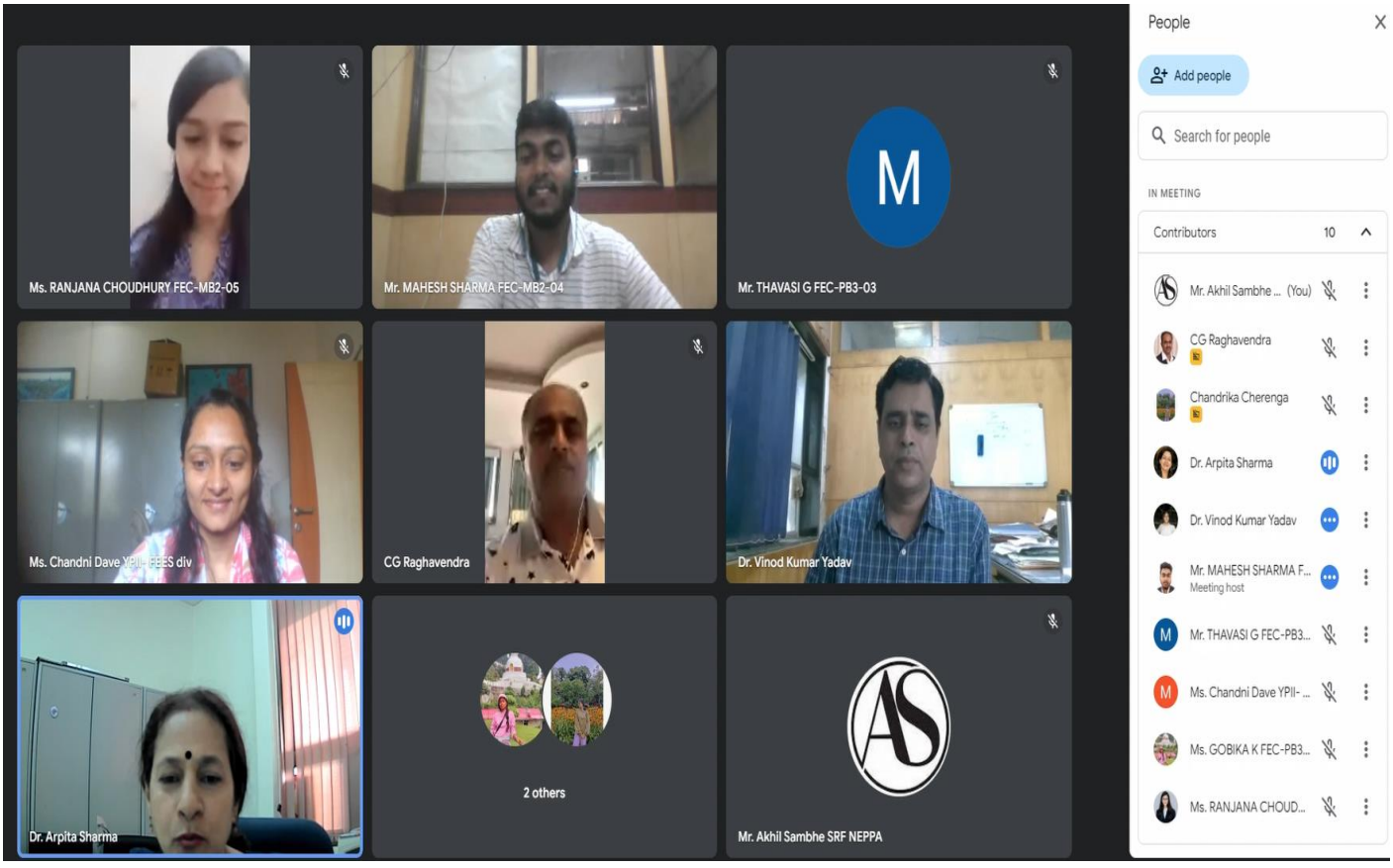
The valedictory function of the programme was conducted on 13th July and the certificates were distributed to the participants of the training program. Dr. Arpita Sharma, Head FEES Division highlighted the utility of this training programme in the present digital era stressing the need for more similar programmes.

A manual of the training programme was also released virtually. The manual was formed by coordination and cooperation of all the resource people of the training programme. This would serve as a valuable resource that participants can refer to when they need to refresh their memory or clarify concepts and procedures.

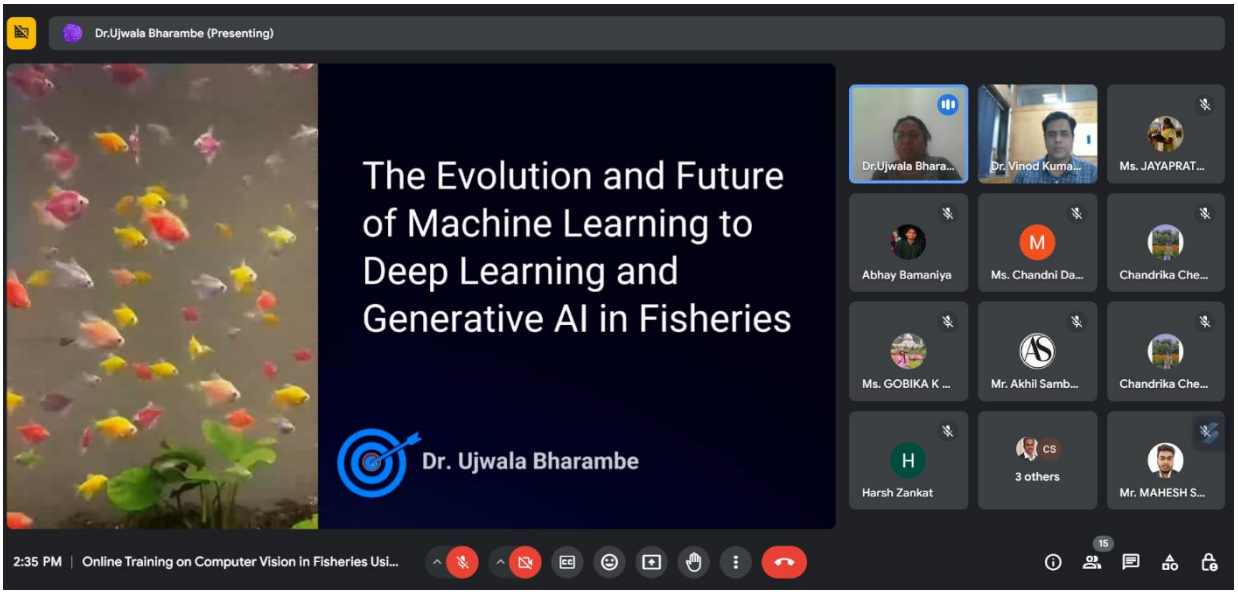
The training programme was conducted by Course Directors Dr. Vinod Kumar Yadav and Dr. Arpita Sharma.

Photographs of the Online training programme on

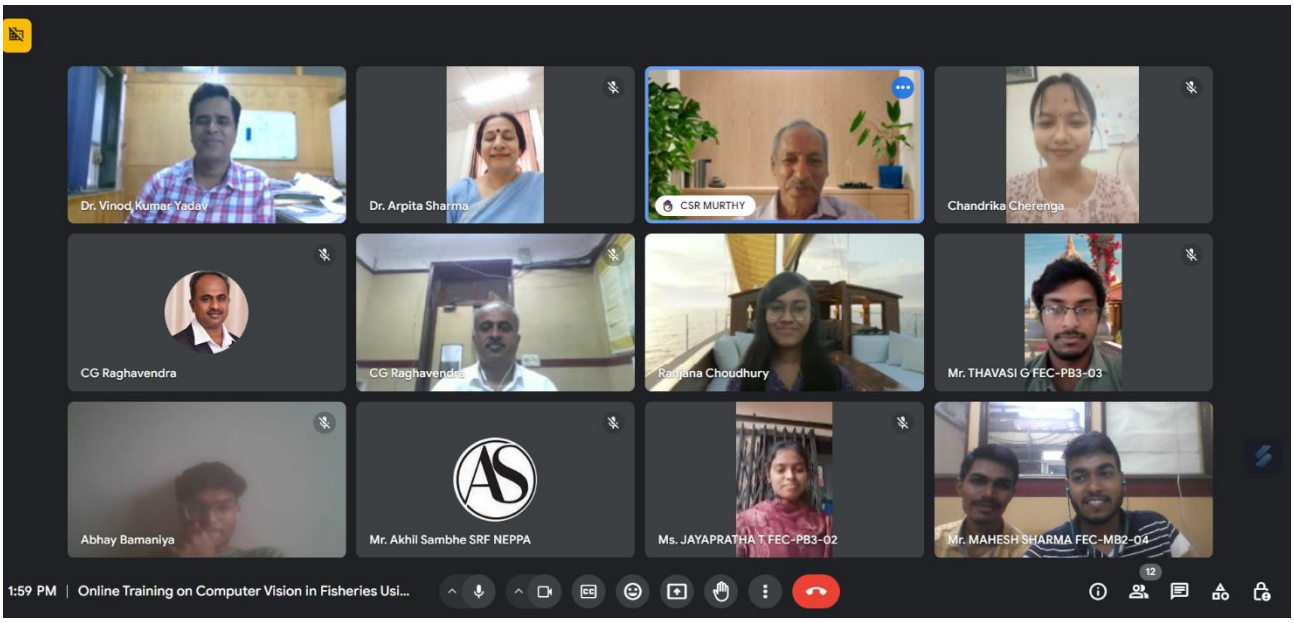
"Computer Vision in Fisheries Using Machine Learning"



Inaugural Programme



The Lecture Session



The Valedictory program