(Global Initiative of Academic Network)

VIRTUAL AND AUGMENTED REALITY: THE FUTURE TECHNOLOGY

(March 14, 2022-March 19, 2022 **(ONLINE)**)

……

Overview

The recent years have witnessed a large spread in the use of Virtual and Augmented Reality (VR and AR). In the past, these technologies were mainly exploited in gaming applications, while in the last years their use started spreading in many other fields, thanks to the advancements in the rendering devices and of the available computational capacity. The capabilities offered by AR and VR are numerous: from training operators to perform specialized tasks, to remote maintenance and artistic applications. VR can grant to the user a high degree of immersion in the virtual content thanks to the exploitation of Head Mounted Displays (HMD) that project the viewer in a virtual world while disconnecting him from reality. On the other hand, VR allows to augment the real world with synthetic content while allowing the viewer not to lose contact with the surrounding world.

The increasing interest in VR and AR is witnessed from the large number of devices that can be found on the market at accessible prices, but also by the numerous European projects that have received funding for developing VR and AR applications. Anyway, despite the advancements in hardware and software, there are still many issues that need to be addressed, from the definition of effective compression standards for the content to be delivered, to the improvement of the quality of user interaction with such content, which very often results in sickness.

Internationally reputed faculty member with mastery in teaching, research, consultancy and industrial experience in area of Artificial Intelligence, Computer Vision, Machine Learning will conduct this course. The aim of this course is to exposing participants to the fundamentals of Augmented and Virtual Reality and their applications to various domains.

Course participants will learn these topics through lectures and hands-on experiments. Also case studies and assignments will be shared to stimulate research motivation of participants.

Modules (Brief Description)	▪ Augmented Reality and Virtual Reality; its applications. ▪ Display technologies and rendering devices for Augmented and Virtual Reality. ▪ Interaction modalities for Augmented Reality and Virtual Reality with focus on the challenges on usability and perceived quality of experience **Number of participants for the course will be limited to thirty (30).**
You Should Attend If…	▪ You are graduate or undergraduate student in Electronics, Computer Science, Electrical, Mathematics, and Statistics. ▪ You are a data scientist and working with Computer Vision or want to pursue your career as a data scientist. ▪ You are a Ph.D. student or faculty from academic institution interested in learning how to do research on VR/AR or how to apply Machine Learning Techniques in VR/AR.
Fees	The participation fees for taking the course is as follows: **Participants from abroad: US $150** **Industry/ Research Organizations: INR 5000** **Academic Institutions (Faculty): INR 600** **Students: INR 300** The above fee includes all instructional materials.

March 14, 2022-March 19, 2022 (Online).

National Institute of Technology Rourkela

Course Coordinator:Dr. Bidyut Kumar PatraPhone: 0661-2462367E-mail: patrabk@nitrkl.ac.in
Mobile: +91-9438503632

.....G

GIAN Portal registration

https://gian.iitkgp.ac.in/GREGN/index

Course Registration

https://forms.gle/WoS3knGtXu9aqyw9A

The Faculty

Dr. Federica Battisti is a faculty member in the Department of Information Engineering at University of Padova, Padua, Italy. She earned her Ph.D. degree in Telecommunication Engineering at Università degli Studi Roma Tre in 2010. Prior to her Ph.D., she completed Master degree in in Electronic Engineering from Università degli Studi Roma Tre, Rome, Italy, in July 2006. She has been involved in several national and European projects. She has been regular instructor of the course Multimedia Communications and Telecommunication Security, and now of Digital Signal Processing. She has published more than 100 research articles in reputed journals and conferences.
Her research interests are in signal and image processing with focus on subjective quality analysis of visual contents.

Dr. Bidyut Kumar Patra is a faculty member in the Department of Computer Science and Engineering at National Institute of Technology Rourkela. He earned his Ph.D. degree in Computer Science and Engineering from IIT Guwahati. He was awarded Marie-Curie Fellowship for conducting Postdoctoral Research in Finland. His research area includes Machine Learning, Data Mining, and Recommender System, Natural Language Processing.