AIST – 2022

4th INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE AND SPEECH TECHNOLOGY

9th - 10th December, 2022

www.aistconference.com

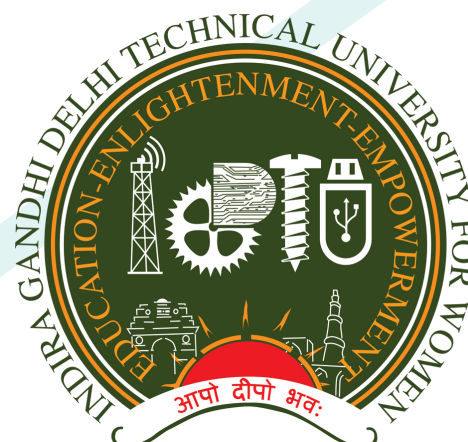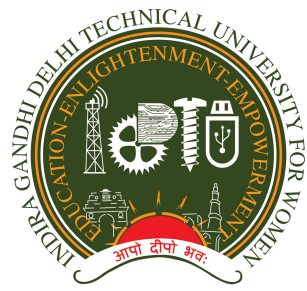## SOUVENIR

ORGANIZED BY

Centre of Excellence – Artificial Intelligence
(Supported by Department of Science and Technology, GOI)

Indira Gandhi Delhi Technical University for Women

(Established by Govt of NCT of Delhi),
Kashmere Gate, Delhi-110006

www.igdtuw.ac.in

4 th INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE AND SPEECH TECHNOLOGY (AIST – 2022)

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GENERAL CHAIR

Dr. Amita Dev
Hon'ble Vice-Chancellor, IGDTUW

HONORARY CHAIR

Dr. S. Nakamura
NAIST , JAPAN

Technical Program Chair

Prof. S.S. Agrawal
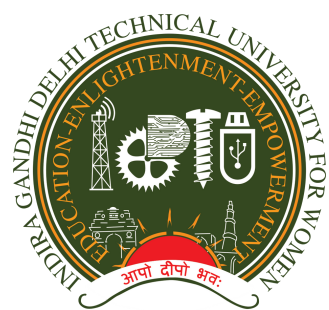**Emeritus Scientist, CSIR**

Conference Convener

Prof. Arun Sharma
Dean-Examinations, IGDTUW

Conference Co-Convener

Prof. Poonam Bansal
HOD - AI & DS, IGDTUW

4th INTERNATIONAL CONFERENCE ON
ARTIFICIAL INTELLIGENCE AND SPEECH TECHNOLOGY
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CHIEF GUEST
INAUGURATION

**Prof. Pramod Pandey,
Vice-Chancellor, Deccan College
(Deemed University), Pune**

CHIEF GUEST
VALEDICTORY

**Dr. Nisha Mendiratta
Advisor & Head WISE-KIRAN
DST, GoI**

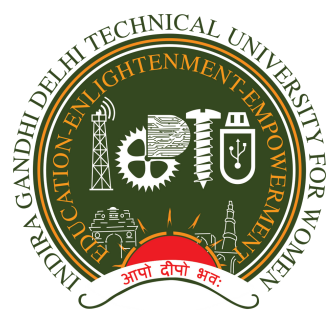## GUEST OF HONOUR
INAUGURATION

**Dr. Sachin Gulati,
Director, Campus Hiring,
American Express**

GUEST OF HONOUR
VALEDICTORY

**Shri Vivek Khaneja
Executive Director, C-DAC,
NOIDA**

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KEYNOTE SPEAKERS

Dr. TANJA SHULTZ
University of Bremen,
Germany

Dr. S NAKAMURA
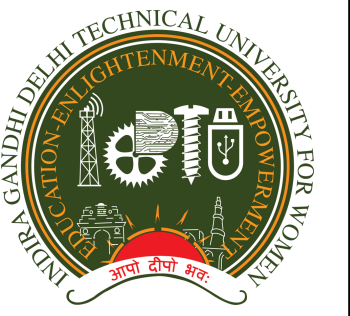**NAIST, JAPAN**

Dr. MILAN STEHLIK
Johannes Kepler University,
Austria

Dr. CHANDRA SHEKHAR S.
IISc, Bangalore

Dr. SYED ZULKERNAIN SYED IDRUS
Universiti Malaysia Perlis, Malaysia

Message from the General Chair

It gives me immense pleasure to welcome all the participants, delegates, keynote speakers, and resource persons for Fourth International Conference on "Artificial Intelligence and Speech Technology" i.e. AIST-2022, to be held at Indira Gandhi Delhi Technical University for Women, Kashmere Gate, Delhi on 9th and 10th December 2022. The first three versions of the Conferences were a great success with the participation of experts from USA, Germany, Japan, Austria, Malaysia, and almost all corners of India.

The 4th version of AIST has scaled up with a greater number of quality papers from wider reach of academicians, professionals and researchers all over the world. The fourth International Conference on Artificial Intelligence and Speech Technology, 2022 has provided us the opportunity to interact with a great number of International Keynote Speakers and to learn from these experts.

The aim of the Conference is to serve as a forum for discussions on the state-of-the-art research, development, and implementations of Artificial Intelligence and Speech Technology. AIST-2022 is dedicated to cutting-edge research that addresses the scientific needs of academic researchers and industrial professionals to explore new horizons of knowledge related to Artificial Intelligence, Machine Learning, Deep Learning, Speech Synthesis, and Speech Recognition. Researchers from across the world are presenting their research revealing the latest and relevant research findings on almost all aspects of these domains.
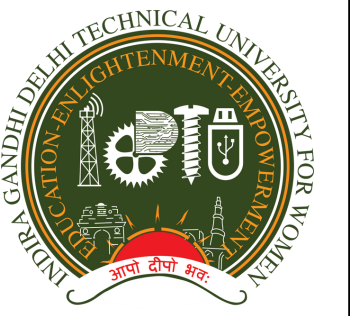
As academicians, the responsibility to nurture complete professionals lies with us. This necessitates the knowledge of the latest trends in fast-changing technology. Conferences bring together people from all different geographical areas who share a common discipline or field and is found effective to extend one's knowledge.

I, on behalf of the Steering Committee, would like to express my sincere thanks and appreciation to the world-renowned Professors and prominent Researchers for having agreed to deliver the keynote session and share their knowledge during the Conference.

I am sure that this colloquy of researchers and experts from academia and industry would greatly benefit researchers, students and faculty. Young scientists and researchers will find the contents of the proceedings helpful to set roadmaps for their future endeavors.

I wish the conference great success.

Dr. Amita Dev
Hon'ble Vice-Chancellor, IGDTUW
General Chair, AIST-2022

Message from the TPC Chair

It is a matter of great pleasure and happiness to see that Indira Gandhi Delhi Technical University for Women, Delhi is organizing its Fourth International Conference on Artificial Intelligence and Speech Technology (AIST-2022). The objective of the conference is to provide a platform for a profound discussion and presentations on state-of-the-art research, development, innovations, and implementations of Artificial Intelligence and Speech Technology by researchers worldwide.

There has been tremendous advancement and innovations in Artificial Intelligence which is incomparable to what Artificial Intelligence emerged traditionally. We use Artificial Intelligence many times during the day-often, without even realizing it. Today Artificial Intelligence has greatly enhanced machine learning, Natural Language Processing (NLP), and Deep learning such that they are enabling new developments in Speech Technology like voice response user interactive systems, smartphones, and home appliances. The demand of such appliances and systems is increasing tremendously with new features and the market for voice-enabled systems will increase by several billion dollars in the near future. India has a great opportunity scope of developing such systems in indigenous languages-22 official and 780 spoken languages. It is highly exciting, challenging, and rewarding field of research, development, and applications. Looking to its huge hope and dimensions AIST-2022 brings together academics, industry experts and education leaders from all over the world to discuss an incredibly wide array of topics ranging from the Foundation of Artificial Intelligence and machine learning, data mining, and Cognitive science to Speech technology, to name a few.

I would like to express my sincere thanks and appreciation to the world-renowned Professors and prominent Researchers for having agreed to deliver the keynote talks and share their knowledge during the Conference. My warmest thanks go to the organizing committee colleagues including the co-chairs, the technical program committee members, the paper reviewers for their invaluable work in shaping the technical program, and not the least all the authors who kindly submitted their papers to AIST-2022. I am very happy to share that the accepted papers will be submitted to IEEE Xplore for Publication, which is indexed by SCOPUS and Web of Science.

In summary, no doubt you all will appreciate the unique combination of the cutting-edge technical program, with the wonderful organization of the conference, Enjoy meetings with friends and colleagues as well as important discussions with eminent speakers. I look forward to seeing everyone in IGDTUW, Delhi India

Prof. S.S. Agrawal
DG , KIIT Group Of Colleges
Ex. Emeritus Scientist, CSIR
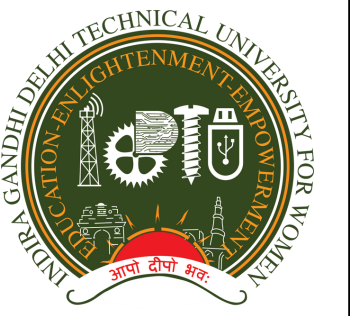**Technical Program Chair, AIST-2022**
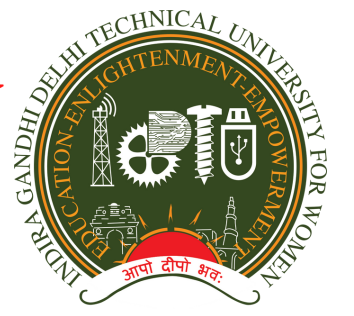
Message from the Vice Chancellor, Universiti Malaysia Perlis (UniMAP)

First and foremost, I would like to congratulate Indira Gandhi Delhi Technical University for Women (IGDTUW), Delhi for the success of organizing the 4th International Conference on Artificial Intelligence and Speech Technology (AIST2022).

This conference will serve as a strategic platform to strengthen the bond among researchers and professionals from the academic, industrial and public sectors through the sharing of new ideas and collaborative future research activities as well as empowering new teaching practices, especially with the rapid progression of technology, communications, and information.

My sincere gratitude also goes out to the organizing committee, paper presenters, and participants for ensuring the success of AIST2022. I strongly believe that the intent of AIST2022 will come to fruition with the combined efforts of everyone here.

Prof. Dr. Zaliman Sauli
Vice Chancellor
Universiti Malaysia Perlis (UniMAP)
Malaysia

Message from the Convener

I take this opportunity to welcome you all to the 4th International Conference on Artificial Intelligence and Speech Technology i.e., AIST-2022, to be held at Indira Gandhi Delhi Technical University for Women, Delhi during 9th-10th December, 2022. This conference will have an amalgam of researchers from the fields of Artificial Intelligence and Speech Technology.

The objective of the conference is to provide a forum for researchers worldwide to unveil their latest work in Artificial Intelligence and innovations in Speech Technology. Topics covered in this conference include fundamentals of AI, its tools and applications, Machine Learning, Deep Learning, Speech Analysis, Representation and Models, Spoken Language Recognition and Understanding, Affective Speech Recognition, various applications including NLP, Computer Vision, Robotics, Medical and others. The conference received more than 375 submissions from all over the globe, out of which the best 96 selected papers will be presented during these two days. The Conference Proceedings will be published by IEEE publication.

AIST-2022 is an effort of IGDTUW to share knowledge and current research on Artificial Intelligence and its innovation in Speech technology. All the paper submissions have gone through a careful anonymous review process (2 or more reviewers per submission) aided by Technical Program Committee members and Advisory Board.

The AIST-2022 Conference includes prominent Keynote addresses by Prof. Satoshi Nakamura (NAIST, Japan), Prof. Tanja Shultz, University of Bremen, Germany, Prof. Milan Stehlik, Johannes Kepler University, Austria, Dr. Syed Zulkernain Syed Idrus, Universiti Malaysia Perlis, Malaysia and Prof Chandra Shekhar, IISc Bengaluru.

Also, the Technical Sessions will be chaired by eminent experts from AI and Speech Technologies including Prof. Samudra Vijay, IIT Guwahati, Dr. Karunesh Arora, CDAC, Dr. Mani Madhukar, IBM Research, Dr Swaran Lata, DeitY and several others.

I would like to thank everyone who has given his or her time, energy and ideas to assist in organizing this event including all members of organizing committee, Technical Program Committee members and all reviewers and our distinguished keynote speakers who have agreed to address the conference attendees. I also wish to thank all of our sponsors and supporters especially American Express and DST KIRAN Division (Curie Grant) who have made this event possible. It is through the collective efforts of these individuals and organizations that we are able to bring this conference a great event.

Looking for the great success of the Conference.

Prof. Arun Sharma
Conference Convener - AIST 2022
Professor and Dean - Examination Affairs

Prof. Pramod Pandey, Vice-Chancellor, Deccan College (Deemed University), Pune

CHIEF GUEST

Prof. Pramod Pandey has served as Professor at the Centre for Linguistics, School of Language, Literature and Culture Studies, Jawaharlal Nehru University, New Delhi in October 2019. I have been engaged in teaching and research in Linguistics and English for the past 42 years. Some of the international fellowships I was awarded include the Linguistic Institute Fellowship at Stanford University (1987), the Rockefeller Foundation Bellagio Residency Fellowship 2003, Visiting Professor at CNRS, Paris (2009), and at the University of Frankfurt (2016). My professional activities include membership of academic bodies and Advisory Committees. I was the Subject Coordinator for the UGC project on the creation of e-contents for Post-Graduate Courses in Linguistics under the EPGPathshala programme (2013-2018). My recent publication is a 2014 two-volume book entitled, Sounds and Their Patterns in Indic Languages, CUP India.

Dr. Nisha Mendiratta , Advisor & Head WISE-KIRAN Division and CCP, DST, Govt.

CHIEF GUEST

Dr. Nisha Mendiratta started her professional career as Scientist at NRSA, Dept. of Space. She carried out research in the field of microwave remote sensing applications for soil moisture estimation. At Indian Institute of Remote Sensing, she carried out intensive research in crop characterization using satellite data and at NCMRWF, worked for medium-range weather forecasting and crop weather modeling.

Presently, she is working as Advisor & Head WISE-KIRAN Division and Climate Change Program (CCP), Department of Science & Technology, Government of India. She is responsible for planning & implementation of women-centric schemes to enhance the participation of women in science & technology (WISE-KIRAN Division). She is coordinating two National Missions on Climate Change of the Government of India i.e. National Mission for Sustaining the Himalayan Ecosystem (NMSHE) and the National Mission on Strategic Knowledge for Climate Change (NMSKCC).

Prof. Satoshi Nakamura, Nara Institute of Science and Technology, Japan

HONORARY GENERAL CHAIR

Dr. Satoshi Nakamura is a professor at the Nara Institute of Science and Technology, Japan, and an Honorary Professor at Karlsruhe Institute of Technology, Germany. He received B.S. from the Kyoto Institute of Technology in 1981 and a Ph.D. from the Kyoto University in 1992. He was Director of ATR SLC Laboratories from 2000-2008, and Director General of Keihanna Research Laboratories, NICT 2009-2010. His research interests include modeling and systems of spoken language processing, speech processing, spoken language translation, spoken dialog systems, natural language processing, and data science. He is one of the leaders of speech-to-speech translation research and has been serving for various speech-to-speech translation research projects including C-Star, A-Star, and International Workshop on Spoken Language Translation IWSLT. He is currently the chair of ISCA SIG SLT (Spoken Language Translation). He was an elected Board Member of ISCA infrom011-2019, and IEEE SPS Speech and Language TC from 2013-2015. He is an IEEE Fellow and ISCA Fellow.

Social skills training with conversational agents

Working with others, and giving a presentation in front of an (even small) public is not always an easy task. Some participants may have strong difficulties to stand in front of others and some of those may suffer from social anxiety disorders. Social skills training (SST) is a type of behavioral therapy for people with mental disorders or developmental disabilities. SST is normally given by psychiatrists, therapists, or other professionals. This talk introduces our project developing a conversational virtual agent for Social Skill Training (SST) in various situations. Target populations are healthy control, social anxiety disorder, and an Autism spectrum disorder. The talk also includes a demo video of the system.

Keynote Speakers

Prof. Tanja Schultz, University of Bremen, Germany

Tanja Schultz has been Full Professor of Cognitive Systems at the Faculty of Mathematics and Computer Science at the University of Bremen, Germany, since 2015. She received her diploma and doctorate in computer science from the University of Karlsruhe and a master's degree in mathematics and sport science from the University of Heideberg, both in Germany. In 2000, she joined the Language Technologies Institute at Carnegie Mellon University in Pittsburgh, Pennsylvania, USA, before being a full professor at the Department of Informatics at the Karlsruhe Institute of Technology (KIT) from 2007 to 2015. Since 2007 she serves as the director of the Cognitive Systems Lab (CSL), where she and her team combine Artificial Intelligence and Machine Learning methods with innovations in biosignal processing to develop technologies such as Silent Speech Communication, Brain-to- Speech, and the Human-to-Robot pipeline. Tanja Schultz is a recognized scholar in the field and has been honored as a Fellow of the Asian-Pacific Artificial Intelligence Association (2021), the IEEE (2020), the European Academy of Science and Arts (2017), and the International Speech Communication Association (2016). Since 2019 she has been the spokeswoman for the high- profile area "Minds, Media, Machines" at the University of Bremen and is a member of the board of directors of the Leibniz ScienceCampus on Digital Public Health and the CRC EASE on Cognition-enabled Robotics.

Title: Biosignal-adaptive Cognitive Systems

Abstract: In the talk, I will describe technical cognitive systems that automatically adapt to the behavior of their users by interpreting their bio signals. Human behavior includes physical, mental, and social actions that emit a range of bio signals which can be captured by a variety of sensors. The processing and interpretation of these bio signals provides an inside perspective on human physical and mental activities, complementing the traditional approach of observing human behavior from the outside. As great strides have been made in recent years in integrating sensor technologies into ubiquitous devices and in machine learning methods for processing and learning from the resulting biosignal data, I argue that the time has come to harness the full range of bio signals to understand the needs and intentions of users. I will present illustrative use cases in the context of cognition-enabled robotics.

Dr. Milan Stehlik, Professor, Johannes Kepler University, Austria

Dr Milan Stehlík obtained his PhD in 2003 at Comenius University, Slovakia. He was Associate Professor at Universidad Técnica Federico Santa María, Chile in 2014-2015. In 2015 he received Full Professorship at University of Valparaiso, Chile. In 2018 he was visiting Full Professor at Arizona State University, USA and in 2019-2020 he was visiting Full Professor at University of Iowa, USA. Currently, he is working at Johannes Kepler University in Linz, Austria. He does research in Covid19 modelling, Extremes, Optimal design, Statistical Modelling, Neural Computing, Cancer discrimination. He servers as Associate Editor for Neural Computing and Applications, Journal of Applied Statistics, Revstat. He has been involved in several international projects and collaborations in Austria, Bulgaria, Czech Republic, Chile, Spain, Russia, Canada, Germany, USA among others. He published 190 papers and gave more than 190 talks. He is co-editor of Journal of Applied Statistics Special Issue "Statistical Perspectives on Analytics for COVID-19 Data."

Data transformations and transfer functions for Artificial Intelligence and Data Science

During the talk, we speak on learning mechanisms of data transformation and aggregation. This will be connected to the information theory approach to Machine learning, Neural Computing, and Artificial Intelligence, and Data Science. Such an approach provides us with a new perspective of methodological and applied research for statistical inference and optimal design. Several questions will be addressed, e.g. What is optimal learning of complex data? This will also address advanced transfer functions for neural networks, as SPOCU. Can we learn negatively? Counterexamples and several paradoxes on regular and singular models will be provided. The importance of Statistics and Optimal designs will be acknowledged in an ecumenic way to Machine learning and neural networks. Some advanced statistical techniques, like from algebraic statistics and nonparametric statistics will be advertised. I will also introduce topological and semi-topological data analysis (TDA and STDA) for evolving complex data systems. Applications to image analysis, finance, ecology, machine learning, neural networks, neural computing and neuroscience will be given.

Prof. Chandra Shekhar Seelamantula, IISc Bangalore

Prof. Chandra Sekhar received the B.E. degree with Prof. K. K. Nair Gold Medal and Best Thesis Award in ECE from Osmania University College of Engineering, Hyderabad in 1999 and the Ph.D. from the Dept. of Electrical Communication Engg. IISc, Bangalore in 2005. From 2006–2009, he was a PDF with Biomedical Imaging Group, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland. In July 2009, he joined the Dept. of Electrical Engineering, IISc, where he is currently a Professor and directs research with Spectrum Lab. He served as an Adjunct Faculty with the Centre for Neuroscience, IISc. He was the recipient of Prof. Priti Shankar Teaching Award from IISc, Digital Health Prize at the National Bio-Entrepreneurship Competition (NBEC) 2018, the Grand Challenges Exploration – India (Round 5) Research Award funded by Bill and Melinda Gates Foundation and Biotechnology Industrial Research Assistance Council in 2020, and four Qualcomm Innovation Fellowship awards during 2019-2022.

Spectrotemporal Processing of Speech Signals Using the Riesz Transform

Speech signals have time-varying spectra. Spectrograms have served as a useful tool for the visualization and analysis of speech signals in the joint time-frequency plane. In this thesis, we consider 2-D analysis of speech spectrograms. We consider a spectrotemporal patch and model it as a 2-D amplitude-modulated and frequency-modulated (AM-FM) sinusoid. Demodulation of the spectrogram yields the 2-D AM and FM components, which correspond to the slowly varying vocal-tract envelope and the excitation, respectively. For solving the demodulation problem, we rely on the complex Riesz transform, which is a 2-D extension of the 1-D Hilbert transform. The demodulation viewpoint brings forth many interesting properties of the speech signal. The spectrotemporal carrier helps us identify the regions that are coherent and those that are not. Based on this idea, we introduce the coherencegram corresponding to a given spectrogram. The temporal evolution of the pitch harmonics can also be characterized by the orientation at each time-frequency coordinate, resulting in the orientationgram. We show that these features collectively enable solutions for the important problems of voiced/unvoiced segmentation, aperiodicity estimation, periodic/aperiodic signal separation, and pitch tracking. We compare the performance of the proposed methods with benchmark methods.

Dr. Syed Zulkernain Syed Idrus, Universiti Malaysia Perlis, Malaysia

DuSYED ZULKARNAIN SYED IDRUS AL-SAGGOFF is an Associate Professor of Computer Science at Universiti Malaysia Perlis (UniMAP), Malaysia. He is currently a Leader and Research Fellow of High-Performance Computing & Security (HPCS) Research Group, Centre of Excellence for Advanced Computing (ADVCOMP), Universiti Malaysia Perlis (UniMAP). He completed his M.Sc. degree in the field of Computer Engineering and graduated in 2008 from UniMAP), Malaysia and Ph.D. degree in Computer Science and Applications at the Université de Caen Basse-Normandie, Caen, France in 2015 specializing in computer security. To date, he has written and co-authored more than 220 articles. He was also appointed as Chairman at over 20 international conferences. His expertise in computer security is notably well accepted, and he has been invited to sit as one of the editorial board members in numerous International Journals. For his continuous contributions and recognition in research as well as his career, he had been awarded with several awards both at national and international levels.

Biometric Keystroke Dynamics for Future User Authentication System:

For the past three decades, computer networks have grown at an explosive rate. In a wide range of environments, such networks have become a mission-critical tool. Organizations are building networks with larger scales than ever before, and connectivity with the global Internet has become indispensable. Along with this trend has come an explosion in the use of computer networks as a means of illicit access to computer systems. The advent of information security has revolutionized our life, particularly with the information that is available, whereby data can easily be accessed and manipulated. Transmitted information level is becoming more important especially as interactions that used to only be carried out offline, such as bank and commercial exchanges are now being carried out online in the form of Internet banking and electronic commercial exchanges, and damages due to such attacks will be greater. As increasing amounts of personal information are surfacing on the Web, it is essential to remain wary of the risks surrounding the ease in which our private details can be accessed. Social networking and online profiles contribute to this: giving potential intruders a plethora of sensitive information. Insafe reports that more than a quarter of children in Europe have online networking profiles which can be exposed, and with over 1 billion people on Facebook alone the danger is widespread. This talk will aim to introduce these issues, in the context of my own work on keystroke dynamics and soft biometrics, though the solutions and answers often remain for future work.

9th - 10th December, 2022
Day I Schedule (9th December, 2022)
Venue: IGDTUW, Auditorium

Time	Activity
10:00 AM – 10:05 AM	Welcome of the Guests
10:05 AM – 10:10 AM	Saraswati Vandana and Lighting of Lamp
10:10 AM – 10:15 AM	Introduction to Conference by Prof. Arun Sharma, Convener, AIST2022
10:15 AM – 10:20 AM	Address by Dr S S Agrawal, Technical Program Chair, AIST2022
10:20 AM – 10:25 AM	Address by Dr. Satoshi Nakamura, Honorary Chair, AIST2022
10:25 AM – 10:30AM	Address by Dr Amita Dev, General Chair-AIST2022 and Hon'ble VC
10:30 AM – 10:35AM	Address by Guest of Honour, Dr. Sachin Gulati, Director, Campus Hiring, American Express
10:35 AM – 10:45AM	Address by Chief Guest, Prof. Pramod Pandey, VC, Deccan University, Pune
10:45 AM – 10:50AM	Release of Conference Souvenir
10:50AM – 10:55 AM	Vote of Thanks- Prof Poonam Bansal, Co-Convener AIST2022
10:55 AM – 11:00 AM	National Anthem
11:00 AM - 11:30 AM	High Tea
11:30 AM – 12:30 AM	Panel Discussion: Careers at American Express including AI oriented Roles • Dr. Sachin Gulati, Director, Head of India Campus Recruitment • Yogda Anand, Manager, India Campus Recruitment • Anshika Juneja, Campus Recruitment Specialist • Vanshika Bansal, Campus Recruitment Intern
12:30 PM – 1:15 PM	Key Note Address I: Prof. Chandra Sekhar S., IISC Bengaluru Session Chair: Prof. Poonam Bansal, IGDTUW
01:15 PM – 02:00 PM	Lunch Break
02:00 PM – 02:45 PM	Key Note Address II: Dr. Tanja Shultz, Univ. of Bremen, Germany Session Chair: Dr. S.S. Agrawal, Emeritus Scientist, CSIR
02:45 PM – 04:15 PM	Technical Session- I (Online) Technical Session – II (Online) Technical Session – III (a) (Online) Technical Session – III (b) (Online)
04:15 PM – 05:00 PM	Key Note Address III: Prof Syed Zulkarnain , Universiti Malasia Perlis, Malaysia

9th-10th December, 2022

Day 2 (10th December, 2022)

Time	Activity
9:30 AM – 11:00 AM	Technical Session IV (Offline)
	Technical Session V (Online)
	Technical Session VI (Online)
11:00 AM – 11:45 AM	Keynote Speaker-IV (offline) Prof Milan Stehlik, John Kapler University, Austria
	Session Chair: Prof. Arun Sharma, IGDTUW
11:45 AM – 1:15 PM	Technical Session-VII (ONLINE)
	Technical Session-VIII (ONLINE)
01:15 PM – 1:45 PM	Lunch Break
01:45 PM – 3:00 PM	Technical Session IX (Offline)
	Technical Session X (Offline)
03:00 PM - 03:45 PM	Key Note Address V by Dr. Satoshi Nakamura, NAIST, Japan
	Session Chair: Dr. (Mrs.) Amita Dev, IGDTUW
03:45 PM – 4:00 PM	High Tea
04:00 PM - 05:00 PM	Valedictory Function

Valedictory Session (10th December, 2022)

| Time	Activity
04:00 PM – 04:05 PM	Welcome of the Guests
04:05 PM – 04:10 PM	Saraswati Vandana and Lighting of Lamp
04:10 PM – 04:15 PM	Conference Report by Prof. Arun Sharma, Convener, AIST2022
04:15 PM – 04:20 PM	Address by Dr S.S. Agrawal, Technical Program Chair, AIST2022
04:20 PM – 04:25 PM	Address by Dr Amita Dev, Hon'ble VC and General Chair-AIST2022
04:25 PM – 04:30 PM	Address by Guest of Honour, Shri Vivek Khaneja, Executive Director, C-DAC NOIDA
04:25 PM – 04:30 PM	Address by Chief Guest, Dr. Nisha Mendiratta, Advisor & Head WISE – KIRAN, DST- GoI
04:30 PM – 04:50 PM	Distribution of Certificates for Best Papers and Authors
04:50PM – 04:55 PM	Vote of Thanks- Prof Poonam Bansal, Co-Convener AIST2022
04:55 PM – 05:00 PM	National Anthem

Technical Session Chairs

|		
Track 1: Trends and Applications in Speech Processing	Session Chair: Prof. Samudra Vijay, IITG Co-Chair: Prof. Arun Sharma, IGDTUW	Online Mode Date: 9th December, 2022 Time: 02:50 PM – 04:30PM
Track 2: NLP and its Applications	Session Chair: Prof. P.K. Saxena Co-Chair: Dr. Poonam Bansal, IGDTUW	Online Mode Date: 9th December, 2022 Time: 02:50 PM – 04:30PM
Track 3(A): Applications of MachineLearning and Deep Learning in Healthcare Track 3(B): Artificial Intelligence and Neural Networks	Session Chair: Prof. S.K. Dhurandher (NSUT) Co-Chair: Prof. Deepak Kumar Sharma,IGDTUW Session Chair: Prof. Vishal Bhatnagar(NSUT) Co-Chair: Dr. Sanjib Kumar Sahu, IGDTUW	Online Mode Date: 9th December, 2022 Time: 02:50 PM – 04:30PM
Track 4: Recent Trends using Hybrid Technology	Session Chair: Dr. Devender Kumar(NSUT)/ Dr. Chandra Prakash (NIT Delhi) Co-Chair: Prof. A.K. Mohapatra,IGDTUW	Offline Mode Date: 10th December, 2022 Time: 09:30AM -11:00 AM
Track 5: Recent Trends in Machine Learning and Deep Learning	Technical Session Chair: Prof. Amit Prakash Singh (GGSIPU) Co-Chair: Dr. Ankush Jain, IGDTUW	Online Mode Date: 10th December, 2022 Time: 09:30AM -11:00 AM
Track 6: Analysis using Hybrid Technologies with Artificial Intelligence	Technical Session Chair: Dr. Manju Khari(JNU) Co-Chair: Ms. Kiran Malik, IGDTUW	Online Mode Date: 10th December, 2022 Time: 09:30AM -11:00 AM
Track 7: Image Analysis using Machine learning and Deep Learning	Technical Session Chair Prof. V.P. Vishwakarma (GGSIPU) Co-Chair: Dr. Ritu Rani, IGDTUW	Online Mode Date: 10th December, 2022 Time: 11:45AM -1:15 PM
Track 8: Application of ML and DL in Intelligent Systems	Technical Session Chairs: Dr. Swaran Lata (DeitY) / Prof. Meena Tushir (MSIT) Prof. V.P. Vishwakarma (GGSIPU) Co-Chair: Dr. Bhawna Narwal, IGDTUW	Online Mode Date: 10th December, 2022 Time: 11:45AM -1:15 PM
Track 9: Recent Advances in Machine Learning and Deep Learning for Intelligent Systems and Smart Computing	Technical Session Chairs: Dr. Karunesh Arora (CDAC Noida)/ Dr. Ravinder Kumar (SVSU) Co-Chair: Dr. Himanshu Mittal,IGDTUW	Offline Mode Date: 10th December, 2022 Time: 1:45 PM -3:15 PM
Track 10: Recent Advances in Computational Intelligence	Technical Session Chair: Dr. Deepak Garg(Bennett University) Co-Chair: Dr. Shailesh Kamble, IGDTUW	Offline Mode Date: 10th December, 2022 Time: 1:45 PM -3:15 PM
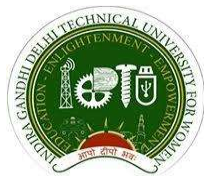
Technical Session: 01 Trends and Applications in Speech Processing
Date: 9th December 2022 (Online Mode) Time: 02:50 pm – 04:30 pm

| S No	Paper ID	Authors	Title	Time Slot
1	22	Ashok Kumar L, Karthika Renuka D, Lovelyn Rose S and Shunmuga Priya Mc	Attention based Multi-Modal Learning for Audio-Visual Speech Recognition	02:50 pm- 03:00 pm
2	39	Sunakshi Mehra and Seba Susan	Early Fusion of Phone Embeddings for Recognition of Low-Resourced Accented Speech	03:00 pm- 03:10 pm
3	46	Sujay Rittikar, Shubham Rangate, Uday Nuli, Mugdha Sathe, Vaidehi Rathor and Divya Patil	Development of a Context based Conversation State Prediction System	03:10 pm- 03:20 pm
4	101	Deepali Sharma, Sakshi Kaushal, Harish Kumar and Shalini	Chatbots in Healthcare: Challenges, Technologies and Applications	03:20 pm- 03:30 pm
5	112	Mr.Ramkumar N, Dr.Karthika Renuka D and Dr.Ashok Kumar L	An Approach On BCI based Silent Speech Interface for Automatic Speech Recognition	03:30 pm- 03:40 pm
6	132	Soma Khan, Tulika Basu, Joyanta Basu, Madhab Pal, Rajib Roy and Milton Samirakshma Bepari	Data Collection and Development of Bengali ASR and TTS for Conversational AI-based Automated Advisories in the Agriculture domain	03:40 pm- 03:50 pm
7	134	Thiyam Susma Devi and Pradip K. Das	Towards Manipuri Tonal Contrast Disambiguation Using Acoustic Features	03:50 pm- 04:00 pm
8	135	Komal Bharti and Pradip K. Das	A Survey on ASR Systems for Dysarthric Speech	04:00 pm- 04:10 pm
9	129	Arjita Choubey, Manoj Kumar Pandey and Ashwani Kumar Dubey	An Efficient Method to Recognize and Separate Patient's Audio from Recoded Data	04:10 pm- 04:20 pm
10	164	Gaddam Prathik Kumar, Muqtada Hasan, Mohd. Anas Ansari and Namita Sharma	Deep Diving into the Technological Exaltations of Voice Assistants	04:20 pm- 04:30 pm
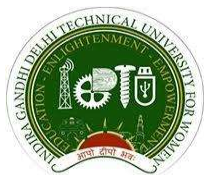
Technical Session: 02 NLP and its Applications (Online Mode)

Date: 9th December 2022 (Online Mode) Time: 02:50 pm – 04:30 pm

S.No	Paper_ID	Authors	Title	Time Slot
1	29	Madhulika Bhatia, Aakash Jain, Ritik Verma and Gurtej Khokhar	Akshi: An Assistance sytem for visually challenged using Machine Learning	02:50 pm- 03:00 pm
2	25	Madhulika Bhadauria, Ashmeet Kaur and Monika Mehta	Heuristic approach for forecasting stock price using LSTM and technical indicators	03:00 pm- 03:10 pm
3	155	Priyanga K K and Dr.Sabeen S	An effective pruning strategy for performance enhancement in deep neural network (DNN)- with Long Short-Term Memory (DNN-LSTM)	03:10 pm- 03:20 pm
4	72	Siva Kumar Pathuri	A Novel Classification Technique for Safety Measures On Covid-19 Using Feature-Based Sentimental Analysis	03:20 pm- 03:30 pm
5	69	Neha Punetha and Goonjan Jain	Sentiment Analysis of Stock Prices and News Headlines Using the MCDM Framework	03:30 pm- 03:40 pm
6	74	Anusha Chhabra and Dinesh Kumar Vishwakarma	Fuzzy and Machine learning Classifiers for Hate Content Detection: A Comparative Analysis	03:40 pm- 03:50 pm
7	190	Rashmi Gandhi, Sonia Rathee, Ritu Jangra and Pranav Kumar	Sentiment Analysis Using Transfer Learning	03:50 pm- 04:00 pm
8	137	Sai Gokhale and Pranjali Deshpande	A Survey of Morphological Analysis for Marathi Language	04:00 pm- 04:10 pm
9	79	Jyoti Verma, Abhinav Bhandari and Gurpreet Singh	Network Intrusion Detection System Employing Big Data and Intelligent Learning Methods	04:10 pm- 04:20 pm
10	219	Shambhu Sharan, Dr. Amita Dev, Dr. Poonam Bansal, Dr. Shweta Bansal, Dr. Shyam Sunder Agrawal	Sphinx-Based Evaluation of Efficient Acoustic Modeling Parameters for LibriSpeech Corpus	04:20 pm- 04:30 pm
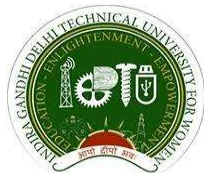
Technical Session: 03(A) Applications of Machine Learning and Deep Learning in Healthcare

Date: 9th December 2022 (Online Mode) Time: 02:50 pm – 04:30 pm

| S.No	Paper ID	Authors	Title	Time Slot
1	4	Pranita Upadhyaya and Sanjib Upadhyay	Use of telemedicine and artificial intelligence in Eye and ENT: a boon for developing countries	02:50 pm- 03:00 pm
2	199	Shruti Sinha, Sakshi Roy, Anjali Singh, Vibhuti Srivastava	Surface Wettability Prediction using ML/AI	03:00 pm- 03:10 pm
3	28	Radhika Goel, Priyank Maity, Madhulika Bhatia and Ashish Grover	Detecting Keratoconus using Machine Learning Models	03:10 pm- 03:20 pm
4	67	Sadiya Ali	Epilepsy Prediction using Machine Learning	03:20 pm- 03:30 pm
5	142	Om Patel and Krishanu Kundu	Oral Cancer Detection and Diagnosis: A New Frontier in Artificial Intelligence	03:30 pm- 03:40 pm
6	83	Soumya Jindal and Meemansa Jindal	Artificial Intelligence in cancer survivorship care plans: what lies beyond diagnostics?	03:40 pm- 03:50 pm
7	88	Astha Sharma and Prof. Ashwini Kumar	A Review: Detection Of Plants Disesaes Using Machine Learning And Soft Computing Techniques	03:50 pm- 04:00 pm
8	93	Vikneswaran Vijean, Abdul Ghapar Ahmad, Syakirah Afiza Mohammed, Razi Ahmad, Wan Amiza Amneera, Ragunathan Santiagoo and Lim Chee Chin	Investigation on Medicated Drugs in ECG of Healthy Subjects	04:00 pm- 04:10 pm
9	96	Vikneswaran Vijean, Syakirah Afiza Mohammed, Razi Ahmad, Wan Amiza Amneera Wan Ahmad, Ragunathan Santiagoo, Abdul Ghapar Ahmad and Rajkumar Palaniappan	Early Detection of Diabetic Foot Ulcers through Wearable Shoe Design	04:10 pm- 04:20 pm
10	148	Jyoti Arora, Meena Tushir and Poonam Bansal	Detection of Lung Tumor using Enhanced Image Classification	04:20 pm- 04:30 pm

Technical Session: 03 (b) Artificial Intelligence and Neural Networks (Online Mode)
Date: 9th December 2022 (Online Mode) Time: 02:50 pm – 04:30 pm

S No	Paper ID	Authors	Title	Time Slot
1	194	Garima Gupta, Shreya Thapliyal, Bhargavi Bhatia, Ritika Tyagi, Vivekanand Jha and Rakesh Kumar Singh	Vibing: The Mood Based Music Recommendation System	02:50 pm- 03:00 pm
2	86	Shashibala Agarwal, Maria Jamal and Prof. Pramod Kumar	Fuzzy Neuron Model- An Element of Deep Learning for Stress Estimation	03:00 pm- 03:10 pm
3	103	Anaa Makhdoomi, Naila Jan, Palak Handa and Nidhi Goel	Machine learning techniques for medical images in PCOS	03:10 pm- 03:20 pm
4	195	Apoorva Gupta, Ojasvi Tyagi, Shiva Singhal, Vanshika Uniyal and Vivekanand Jha	A Review on Machine Learning Techniques for DDoS Attack Detection in IoT	03:20 pm- 03:30 pm
5	303	Kshitij Kumar Sinha, Manoj Mathur and Arun Sharma	Assessment of Bedroom Utility: Fuzzy Logic based Approach	03:30 pm- 03:40 pm
6	131	Vinita Tomar, Mamta Bansal and Pooja Singh	Regression Testing Approaches, Tools, and Applications in Various Environments	03:40 pm- 03:50 pm
7	204	Vinay Vats, Rathlawath Saikumar and Chandra Prakash	Identification of knee angle trajectory in Indian outfit using Pose Analysis	03:50 pm- 04:00 pm
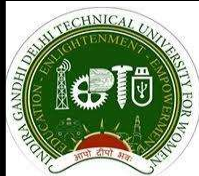
Technical Session: 04 Recent Advancements Using Hybrid Technology (Offline Mode)

Date: 10th December 2022 Time: 09:30am-11:00am Venue: Seminar Hall

| S.No	Paper ID	Authors	Title	Time slot
1	90	Kamakshi Rautela, Dinesh Kumar and Vijay Kumar	Breast Lesion Detection and Localization with VGG19 Optimized Vision Transformer	09:30 am- 09:40 am
2	94	Vidhi Bansal, Niyati Baliyan and Mohona Ghosh	Dynamic Android Malware Detection Using Light Gradient Boosting Machine	09:40 am- 09:50 am
3	100	Aakanksha Gupta and Ashwini Kumar	Deep-Learning Based Hybrid Model For The Classification of Lung Diseases	09:50 am- 10:00 am
4	102	Devendra Tayal, Sonakshi Vij, Divya Arora, Bhavna Meena, Prakhar Jain and Kritik Sharma	Computation analysis for identifying the protagonist and antagonist and their sentiments in Harry Potter Books	10:00 am- 10:10 am
5	105	Pooja Pandey, Rashmi Gupta and Nidhi Goel	Vision Enhancement of Single Foggy Image Using CNN	10:10 am- 10:20 am
6	106	Surbhi Bharti, Ashwni Kumar and Pankaj Gupta	Review of Approximate Computing in Image Processing Applications	10:40 am- 10:50 am
7	89	Tarushi Agarwal, Kapil Dev Mahato, Chandrashekhar Azad and Uday Kumar	Predicting Happiness Score During Covid-19 Using Machine Learning	10:50 am- 11:00 am

Technical Session: 05 Recent Trends in Machine Learning and Deep Learning (Online Mode)

Date: 10th December 2022 (Online Mode) Time: 09:30 am – 11:00 am

| S.No	Paper ID	Authors	Title	Time Slot
1	160	Manik Rakhra, Dr. Dalwinder Singh and Sapna Katoch	Recognition Of Handwritten English Character Using Convolutional Neural Network	09:30 am- 09:40 am
2	13	Shrey Desai, Shlok Sampat and Darshil Vadodaria	Wind Energy Forecasting Using Artificial Intelligence	09:40 am- 09:50 am
3	162	Akanksha Pandey, Arun Singh, Gurasis Singh and Manik Rakhra	Using AI and IoT to assess the efficacy of English-language curricula in higher education : A Proposed Method	09:50 am- 10:00 am
4	52	Saad Alahmari	Predicting e-learning Course final Average-Grade using Machine Learning Techniques :a Case Study in Shaqra University	10:00 am- 10:10 am
5	59	Lakshay Arora and Kshitiz Kumar	Android Ransomware Detection Toolkit	10:10 am- 10:20 am
6	64	Vinay Kumar S, Dr. Sireesha Vikkurty, Dr. Nagaratna Hegde and Anisha K	Disguised Face Detection using Machine Learning	10:40 am- 10:50 am
7	78	Dhruv Rathee and Suman Mann	Daltonizer: A CNN-based Framework for Monochromatic and Dichromatic Color-Blindness	10:50 am- 11:00 am
8	157	Arun Singh and Manik Rakhra	A Review For Different Sign Language Recognition Systems	10:40 am- 10:50 am
9	12	Rishil Sheth, Tanish Surana, Gaurav Shipurkar, Kunal Shah and Prachi Natu	End to End System for Handwritten Text Recognition and Plagiarism Detection using CNN & BLSTM	10:50 am- 11:00 am
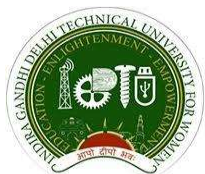
Technical Session: 06 Analysis using Hybrid Technologies with Artificial Intelligence (Online Mode)

Date: 10th December 2022 Time: 09:30 am – 11:00 am

S.No	Paper ID	Authors	Title	Time Slot
1	158	Ritesh Kumar Shukla, Dalwinder Singh, Manik Rakhra and Arun Singh	The Role of Machine Learning in Health Care Diagnosis	09:30 am- 09:40 am
2	143	Sandeep Sarowa, Bhisham Bhanot and Vijay Kumar	Analysis of Cyber Attacks and Cyber Incident Patterns over APCERT Member Countries	09:40 am- 09:50 am
3	220	Nandini Sethi, Amita Dev, Poonam Bansal	Multimodal Machine Translation for Sanskrit-Hindi: An Empirical Analysis	09:50 am- 10:00 am
4	73	Shreya Biswas, Navpreet Kaur and Seeja K.R	Early Detection of Parkinson's Disease From Hand Drawings Using CNN And LSTM	10:00 am- 10:10 am
5	139	Isha Malhotra and Nidhi Goel	Forecasting the Temporal Evolution of COVID-19	10:10 am- 10:20 am
6	98	Vikneswaran Vijean, Razi Ahmad, Wan Amiza Amneera, Ragunathan Santiagoo, Abdul Ghapar Ahmad and Syakirah Afiza Mohammed	Predictive Maintenance System Design for Infant Intensive Phototherapy Lamp	10:40 am- 10:50 am
7	104	Syedhassan Alidrus, Siti Zuraidah Ibrahim, Faridah Hanim Mohd Noh, Latifah Munirah Kamarudin and Sugchai Tantiviwat	Permittivity extraction of glucose solutions through artificial neural networks	10:50 am- 11:00 am
8	168	Md Abu Hanif, Harpreet Kaur, Manik Rakhra and Arun Singh	Role of CBIR In a Different fields-An Empirical Review	10:40 am- 10:50 am
9	108	Jagrati Gupta and Shobha Sharma	Towards Real-Time Hardware Based Human and Object Detection: A Review	10:50 am- 11:00 am
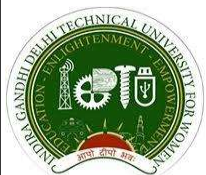
Technical Session: 07 Image Analysis using Machine Learning and Deep Learning (Online Mode)

Date: 10th December 2022 and Time: 11:45am – 1:15 pm

| S.No	Paper ID	Authors	Title	Time Slot
1	161	Md Khadimul Islam Zim, Manik Rakhra, Dalwinder Singh and Arun Singh	Noise Reduction and dehazing of Visual Data	11:45 am – 11:55 pm
2	35	Shivraj Patil, Shweta Choudhary, Ketki Kinkar, Riya Danve and Dipali Baviskar	Auto Number Plate Recognition	11:55 am – 12:05 pm
3	233	Nandini Sethi, Amita Dev, Poonam Bansal	A Bilingual Machine Transliteration System For Sanskrit-English Using Rule-Based Approach	12:05 pm-12:15pm
4	115	Nur Alifah Megat Abd Mana, Yen Fook Chong, Chee Chin Lim and Haniza Yazid	Evaluation of Contact Lens Data Acquisition Approaches using Enhancement Techniques	12:15 am – 12:25 pm
5	187	Tina Gupta, Puja Arora, Ritu Rani, Garima Jaiswal, Amita dev Dev and Poonam Bansal	Classification of Flower Dataset using Machine Learning Models	12:25 pm-12:35pm
6	163	Arbaj Ansari, Arun Singh, Baljinder Kaur, Manik Rakhra and Dalwinder Singh	Handwritten Text Recognition using Deep Learning Algorithms	12:35 am – 12:45 pm
7	179	Ruchika Bala, Arun Sharma and Nidhi Goel	A novel convolutional neural network architecture for diabetic retinopathy screening	12:45 pm-12:55pm
8	75	Heena Kalim, Amit Prakash Singh and Anuradha Chug	Citrus Leaf Disease Detection Using Hybrid CNN-RF Model	12:55 pm – 1:05 pm
9	68	Rosa Kim Cho, Kanika Sood and Chinmayi Sree Chitra Channapragada	Image Repair and Restoration Using Deep Learning	1:05 am – 1:15 pm

Technical Session: 08 Application of ML and Dl in Intelligent Systems (Online Mode)

Date: 10th December 2022 and Time: 11:45am – 1:15 pm

S.No	Paper ID	Authors	Title	Time Slot
1	21	Umesh Kumar Lilhore, Sarita Simaiya, Atul Garg, Jyoti Verma and Nidhi Bansal Garg	An Efficient Energy-Aware Load Balancing Method for Cloud Computing	11:45 am – 11:55 pm
2	55	Bharti Sharma, Saksham Kumar Sharma, Dr. Poonam Bansal, N Sudha Sushma and Sangam	Map-Reduce Based Parallel Firefly Algorithm For Fast Recommendations	11:55 am – 12:05 pm
3	76	Esha Jain	Significance of Blockchain in Curing Digital Marketing Security Issues: A Sociometric Approach	12:05 pm-12:15pm
4	77	Deepjyoti Choudhury and Tapodhir Acharjee	A Swarm Intelligence Based Community Detection Algorithm in Social Networks	12:15 am – 12:25 pm
5	154	Arunita Bansal, Sunidhi Chaudhary, Dr. Ritu Rani, Dr. Nidhi Goel, Dr. Amita Dev and Inderdeep Dhanoa	Comparative Analysis of Bail Judgements	12:25 pm-12:35pm
6	116	Nidhi Srivastava, Manisha Agarwal, Sapna Arora and Tripti Lamba	OPABP-Optimizing Parameters, to Improve Accuracy in Bug Prediction using Machine Learning	12:35 am – 12:45 pm
7	122	Vikneswaran Vijean	Phonocardiogram (PCG) Signals Based Classification of Heart Abnormalities	12:45 pm-12:55pm
8	126	Srishti Vashishtha, Suraj Kumar, Vishakha Bothra, Vishal Singhal and Aaryan Sharma	Vehicle Detection System using YOLOv4	12:55 pm – 1:05 pm
9	174	Mogalraj Kushal Dath, Rajesh Banala, Manik Rakhra, Dalwinder Singh and Arun Singh	Basic design for the implementation of automatic surveillance system on helmet detection	1:05 am – 1:15 pm
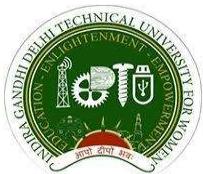
Technical Session: 09 Recent Advances in Machine Learning and Deep Learning for Intelligent Systems and Smart Computing (Offline Mode)

Date: 10th December 2022 Time: 01:45pm – 3:15pm Venue: Seminar Hall

S.No	Paper ID	Authors	Title	Time-slot
1	107	Smridhi Gupta, Arushi Garg, Vidhi Bishnoi and Nidhi Goel	Binary Classification of Pulmonary Nodules using Long Short Term Memory (LSTM)	01:45 pm-01:55 pm
2	124	Dhyani Patel, Sukanya Chopra, Nonita Sharma and Monika Mangla	Analysis and Visualization of Heart Failure Prediction Dataset	01:55 pm-02:05 pm
3	127	Devashree Chaturvedi, Himanshi Goel, Nonita Sharma and Monika Mangla	Analysis and Visualization of Netflix Shows	02:05 pm-02:15 pm
4	128	Kanika Kamalhans, Anushka Gupta, Nonita Sharma and Deepak Kumar Sharma	Musify: An application for Aspect Analysis and Visualization of Spotify's song data	02:15 pm-02:25 pm
5	133	Devendra Kumar Tayal, Amita Jain, Nikita Shrivastava, Akshita Jain and Hunny Gaur	Knowledge Enhancement using Question Generation for Images and Chart Data Input	02:25 pm-02:35 pm
6	149	Samriddha Sinha, Amar Saraswat and Shweta Bansal	Evaluation of Deep Learning Approaches for Detection of Brain Tumours using MRI	02:35 am- 02:45 am
7	152	Riya Sharma, Saloni Gupta, Pooja Gambhir and Dr. Poonam Bansal	End-to-End recognition approach for Cognitive Impaired speech using Sequential Conv-Nets	02:45 pm-02:55 pm
8	114	Kshitij Joshi, Pujan Soni, Rudra Joshi, Smit Joshi and Abhilasha Vyas	Cognitive-Chair : AI based advanced Brain Sensing Wheelchair for Paraplegic/Quadriplegic people	02:55 am – 03:05 pm
9	89	Dhruv Sharma, Chhavi Dhiman and Prof. Dinesh Kumar	A Review on Stylized Image Captioning Techniques, Evaluation Parameters and Datasets	03:05 am – 03:15 pm

Technical Session: 10 Recent Advances in Computational Intelligence (Offline Mode)

Date: 10th December 2022 Time: 01:45pm – 3:15pm Venue: Conference Hall

S.No	Paper_ID	Authors	Title	Time-slot
1	172	Revika Anand, Mitali Jain, Lipika Jain, Bhawna Narwal and Arunima Jaiswal	Application of an Intrusion Detection System in a Smart City: A Review	01:45 pm-01:55pm
2	173	Shivangi Batra, Bhawna Narwal and Amar Kumar Mohapatra	Exposition of E-Healthcare and E-Referral Systems and the role of Machine Learning	01:55 pm-02:05pm
3	176	Gaurikaa Kathpalia, Revika Anand, Arunima Jaiswal and Bhawna Narwal	Comparative analysis of pre-trained Convolution Neural Network Techniques for tomato leaf disease detection	02:05 pm-02:15pm
4	177	Revika Anand, Mitali Jain, Naina Yadav, Bhawna Narwal and Arunima Jaiswal	Demystifying the use of Machine Learning in Fog Computing	02:15 pm-02:25pm
5	147	Amar Saraswat, Neeta Sharma and Anupam Dalal	Investigation of Brain Tumors Detection using Automatic Segmentation Techniques	02:25 pm-02:35pm
6	201	Navya Agarwal, Ananya Srivastava, Poonam Bansal and Kiran Malik	Classification of Chest Radiography Scans for COVID-19	02:35 am- 02:45 am
7	150	Shivangi Sinha, Amar Saraswat, Shweta Bansal and Shambhu Sharan	Brain Tumour Segmentation Techniques from MR Images using Machine Learning: An Analysis	02:45 pm-02:55pm
8	136	Alina Banerjee, Ela Kumar and Ravinder M	Transformed Deep Spatio-Temporal Features and Fused Distance for Efficient Video Retrieval	02:55 am – 03:05 pm

Indira Gandhi Delhi Technical University for Women
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Education - Enlightenment - Empowerment

A Country's progress is incomplete if women are not empowered. Education is the first step towards it which makes women self-reliant and contribute towards the society. In May 2013, Indira Gandhi Delhi Technical University for Women (IGDTUW) was established and is now a completely self-reliant University imparting high-quality technical education exclusively for Women on its Kashmere Gate heritage Campus situated in the heart of Delhi. the University has achieved a number of milestones, to name a few recent ones are:

- Ranked 54th in the overall top 100 Universities globally and 13th in the Special Category of Entrepreneur Spirit by World University Ranking Impact (WURI) 2022.
- IGDTUW has been conferred with the New Code of Education Award by AICTE for 2022 India Today Rankings 2022.
- IGDTUW has been conferred University Excellence Award during Indian Engineering Congress Centenary Celebrations in December 2021.
- IGDTUW makes India Proud by being shortlisted in the "The Awards Asia 2022" under the category "Outstanding Support for Students".022" under the category "Outstanding Support for
- Conferred with FICCI University of the Year-2021 Award for its continuous commitment towards Quality Education.
- Awarded the 2nd fastest growing University by India Today group-2022.
- Ranked in the band of 101-200 by the prestigious 'Times Higher Education World Impact Rankings 2021' for Sustainable Development Goals (SDG-4 & SDG-5) i.e. Quality Education & Gender Equality.
- IGDTUW is the only Government University in India, selected by QS I QUAGE for awards of E-LEAD INSTITUTE for E-Learning Excellence for Academic Digitization.
- Awarded with a Diamond Rated University through rigorous analysis against performance metrics by QS I-Gauge

University is running Bachelor of Technology (B.Tech.) in CSE, CSE (Artificial Intelligence), IT, AI and Machine Learning, ECE, ECE (Artificial Intelligence), Mechanical & Automation Engineering, Six Years Dual Degree B.Tech.-MAE + MBA with Exit Option after 4 years, B.Arch. and BBA. Apart from these, various PG Programs including Master of Technology in CSE (Artificial Intelligence), Artificial Intelligence and Data Science, IT (Cyber Security), ECE (VLSI), Robotics and Automation, Master of Planning (Urban Planning), MBA and MCA and PhD programs in CSE/IT, Computer Applications, ECE, MAE, Electrical Engg., Architecture and Planning, Physics, Chemistry, Mathematics, and English are also running.

University has set up the following Centre of Excellence (CoE):
Centre of Excellence (CoE) in Artificial Intelligence: IGDTUW has received a whooping grant of Rs. 8.5 Crores from DST for establishing CoE in AI.
Centre of Excellence in Mechatronics: IGDTUW has received a massive funding of Rs. 8.67 Cr, given by DKDF, Delhi Govt. for set up CoE in Mechatronics to promote research on Drones, Robotics and Industrial Automation.
NIDHI TBI: Department of Science & Technology, GoI has sanctioned Rs. 6 Crores to accelerate & boost Innovation, Entrepreneurship, Start-ups, and Incubation related activities at the University Campus.

Prestigious Collaborations: IGDTUW has partnered with several industries for knowledge updation & bridging the gap between academia and industry. A few of these collaborations worth mentioning are: NASSCOM & CISCO for setting up of thingQbator Innovation Lab & M/s Flour Daniel for setting up Turning Lab (both under their CSR activities), EATON Foundation for Internship placement and scholarship to students, IBM India Pvt Ltd for academic growth and Technological advancement, Amazon AWS, Ennoble IP, GiZ Germany, ORTISLaw etc. University has also signed MoUs with prestigious Universities across the globe including Universiti Malaysia Perlis, Malaysia, James Cook University, Australia, and others.