



Proceedings of Intelligent Computing and Technologies Conference



Editors

Amitava Nag
Apurbalal Senapati
Pranav Kumar Singh

Jointly Organized by

- Assam Science and Technology University (ASTU)
- Central Institute of Technology Kokrajhar (CITK)

15–16 March, 2021

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Amitava Nag
Apurbalal Senapati
Pranav Kumar Singh
(Editors)

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ICTCon2021 (15th - 16th March, 2021)

Volume Editors

- Dr. Amitava Nag, Associate Professor and Head, Dept. of CSE, Central Institute of Technology Kokrajhar
- Dr. Apurbalal Senapati, Assistant Professor, Dept. of CSE, Central Institute of Technology Kokrajhar
- Pranav Kumar Singh, Assistant Professor, Dept. of CSE, Central Institute of Technology Kokrajhar

Conference Organizers

- Assam Science and Technology University (ASTU)
- Central Institute of Technology Kokrajhar (CITK)

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ICTCon2021

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About the Conference

The Intelligent Computing and Technologies Conference (ICTCon2021) was Jointly Organised by Assam Science and Technology University (ASTU) and Central Institute of Technology (CITK). It was initiated within a very short time and in a semi-virtual mode on 15th - 16th March 2021. The conference was inaugurated in ASTU, Guwahati and the closing ceremony was in CIT Kokrajhar to maintain the COVID-19 protocol. All the sessions were in virtual mode conducted from the CIT Kokrajhar. There were a total 45 submissions in the domain of science and technology from various parts of the country and abroad and finally 25 were selected based on the reviewer's feedback.

We express our gratitude to all the chairs, organizers, session chairs for their dedication to organizing the conference to promoting scientific progress. We also thank all participants for their enthusiastic participation and presentation. A special thanks go to Prof. Dr. Dhiraj Bora, Vice-Chancellor, ASTU; Prof. Debkumar Chakrabarti, Director, CIT Kokrajhar, Dr. Nripen Das, Registrar, ASTU, Ms. Chaitali Brahma, Registrar, CIT Kokrajhar for their continued support.

Organizing Chairs:
Apurbalal Senapati, CIT Kokrajhar
Pranav Kr. Singh, CIT Kokrajhar

ICTCon2021

About the Editors



Amitava Nag is currently an Associate Professor and Head of the Department of Computer Science and Engineering at Central Institute of Technology, Kokrajhar, Assam, India. He has more than 40 research publications in various international journals and conference proceedings. His research interests include IoT, Information security and Machine learning. He is a senior Member of IEEE, ACM and fellow of IET. His research interests include Internet of Things, Information Security and Machine Learning.



Apurbalal Senapati did MSc (Mathematics) from Kalyani University in 2000, MCA from Jadavpur University in 2003, and MTech from ISI Kolkata in 2006. He started his career in Software Industry and later on, joined ISI Kolkata as a JRF and was awarded Ph.D. in Computer Science in 2017. He received a post-doctoral fellowship from CIMAT, Mexico in 2018. He qualified NET, SET exams in Computer Science. He has published numerous research papers in various journals, conferences, and book chapters. Currently, he is serving as an Assistant Professor in the Central Institute of Technology, Kokrajhar. His research interest is now focused on Natural Language Processing, Sentiment Analysis, Data Science, and exploring machine learning / deep learning methods for language processing and other areas.



Pranav Kumar Singh (Member, IEEE, ACM) received the B.Tech. and M.Tech. degrees in Computer Science and Engineering from Dr. A.P.J. Abdul Kalam Technical University (formerly UPTU) and NERIST, India, respectively. He is currently pursuing the Ph.D. degree with the Department of Computer Science and Engineering, IIT Guwahati, India. He is working as an Assistant Professor with the Department of Computer Science and Engineering, Central Institute of Technology at Kokrajhar, India. He has more than 13 years of teaching experience. He has also served as a Nodal Officer NKN and IPv6 Road Map of CITK, an initiative by the Government of India. His research interests include vehicular communications, security and privacy, software-defined vehicular networking, QoS and QoE in wireless communication, intelligent transportation systems, blockchain, and the IoT. He is an active reviewer of many reputed Journals of Elsevier and IEEE Transactions.

Message from Director

Warm and Happy greetings to all. It gives me great pleasure that the Department of Computer Science and Engineering of our Institute is organizing the 1st edition of the Intelligent computing and Technologies Conference (ICTCon2021) during 15th to 16th March, 2021. This conference is a significant one and provides a wonderful opportunity for the research scholars, academic and industrial experts to share and exchange their ideas on the recent advancements in the intelligent system.

I congratulate the organizing committee and all members for their efforts in organizing this conference and wish the conference a grand success.

Debkumar Chakrabarti
Director
Central Institute of Technology Kokrajhar

Message from Chair

The 1st edition of the Intelligent Computing and Technologies Conference (ICTCon2021) is being jointly organized by Assam Science and Technology University and Central Institute of Technology (CITK) on March 15-16, 2021. The main objective of ICTCon2021 is to bring together the research scholars, academic and industrial experts to a common forum to exhibit their technical excellence in the field of Intelligent Computing and technologies. An integral component of the conference is the series of invited lectures by the eminent scientists, academicians and researchers through online mode.

I hope the participants have benefitted from the technical session and invited talk. We are thankful to the chief guest, invited speakers and participants to accept our request to join the conference.

Prof. Sukumar Nandi,
IIT Guwahati
(General Chairs, ICTCon2021))

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Mr. Adarsh Pradhan, GIMT, Guwahati

Conference Program Schedule

Day 1: March 15, 2021 (Monday)

TIME	PROGRAMME																
9.30 A.M.- 11.30 A.M.	OPENING CEREMONY																
	Inaugural Speech: Prof. Dhiraj Bora, VC, ASTU. Prof. Debkumar Chakrabarti, Director, CIT Kokrajhar. Welcome Address: Dr. B.R. Phukan, Program Chair, ICTCON2021. Keynote Address: Prof. Gautam Barua, Director IIIT Guwahati.																
11.30 A.M. - 11.45. A.M.	Tea/Coffee Break																
11.45 A.M.- 1.45 P.M.	Session 1																
11.45 A.M.- 1.45 P.M.	CHAIR : Dr. Pankaj Pratap Singh, Dept. of CSE, CIT Kokrajhar. Session Coordinator: Ms. Puja Sarkar, Dept. of CSE, CIT Kokrajhar.																
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Paper ID</th> <th style="width: 80%;">Paper Title</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2</td> <td>Application of Swarm-Based Feature Selection and Extreme Learning Machines in Lung Cancer Risk Prediction.</td> </tr> <tr> <td style="text-align: center;">8</td> <td>Intelligent Intrusion Detection System using Supervised Learning.</td> </tr> <tr> <td style="text-align: center;">9</td> <td>DISTRIBUTION SYSTEM FAULT ANALYSIS USING MATLAB/SIMULINK.</td> </tr> <tr> <td style="text-align: center;">11</td> <td>APPLICATION OF ARTIFICIAL NEURAL NETWORK TO PREDICT TDS CONCENTRATIONS OF THE RIVER THAMIRABARANI, INDIA.</td> </tr> <tr> <td style="text-align: center;">16</td> <td>A New Popularity Prediction Model for Detection of Trending Topics based on Support Vector Machine over Online Social Networking.</td> </tr> <tr> <td style="text-align: center;">26</td> <td>End-to-End Speech Recognition and Training using Recurrent Neural Network (RNN).</td> </tr> <tr> <td style="text-align: center;">32</td> <td>Co-occurrence Based Approach for Differentiation of Speech and Song.</td> </tr> </tbody> </table>	Paper ID	Paper Title	2	Application of Swarm-Based Feature Selection and Extreme Learning Machines in Lung Cancer Risk Prediction.	8	Intelligent Intrusion Detection System using Supervised Learning.	9	DISTRIBUTION SYSTEM FAULT ANALYSIS USING MATLAB/SIMULINK.	11	APPLICATION OF ARTIFICIAL NEURAL NETWORK TO PREDICT TDS CONCENTRATIONS OF THE RIVER THAMIRABARANI, INDIA.	16	A New Popularity Prediction Model for Detection of Trending Topics based on Support Vector Machine over Online Social Networking.	26	End-to-End Speech Recognition and Training using Recurrent Neural Network (RNN).	32	Co-occurrence Based Approach for Differentiation of Speech and Song.
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1.45 P.M. - 2.30 P.M.	LUNCH
2.30 P.M.- 3.30 P.M.	Session 2 Plenary Talk 1/Keynote Speaker: Prof. Amlan Chakrabarti, Professor, University of Calcutta. Title: IP Based Strategies for Robust IoT Service Management.
3.30 P.M.- 5.00 P.M.	CHAIR : : Dr. Arnab Maji, Assistant Professor, Dept. of IT, NEHU. Session Coordinator: Mr. Ranjan Patowary, Assistant Professor, Dept. of CSE, CIT Kokrajhar.
	Paper ID Paper Title
	7 Preserving Cultural Heritage with Mobile Augmented Reality – A survey.
	13 IOT BASED AUTOMATION AND SOLUTION FOR MEDICAL DRUG STORAGE SMART DRUG STORE.
	19 Design of Smart Heart Rate Monitoring and Stress Detection System with Cloud Data Storage and Privacy.
	20 Design of Driver Alcohol Detection System with Automatic Engine Locking.
	22 Smart Bag based on RFID and Internet of Things.
	27 Broadband millimeter-wave inset feed microstrip array antenna.
	31 ACS Fed Multiband Antenna for Wireless Applications.
	37 Machine Learning Driven IoT Based Smart Health Care Kit.

Day 2: March 16, 2021 (Tuesday)

TIME	PROGRAMME
10.00 A.M.- 11.00 A.M.	Session 3 Plenary Talk 3/Keynote Speaker: Prof. Partha Pratim Sahu, Professor and HoD, Dept. of ECE, Tezpur University.
11 A.M - 1.00 P.M	CHAIR : Dr. Ranjan Maity, Dept. of CSE, CIT Kokrajhar. Session Coordinator: Ms. Puja Sarkar, Dept. of CSE, CIT Kokrajhar.
	Paper ID Paper Title
	10 Data Mining and Principal Component Analysis on Coimbra Breast Cancer Dataset.
	17 Development of Text Clustering Method with K-Means for Analysis Of Text Data.
	18 A COVID-19 corpus creation for Bengali: in the context of language study.
	23 Road Extraction from Remotely Sensed Data :A Review.
	28 Anomaly Detection using Similarity Approach on Airline data.
	30 Technical Domain Classification of Bangla text using BERT.
	34 Using Machine Learning to Predict Distributed Denial-of-Service (DDoS) Attack.
	39 A Machine Learning Based Approach for Software Test Case Selection.
1.00 P.M. - 2.00 P.M.	LUNCH
2.00 P.M.- 3.00 P.M.	Session 4 Plenary Talk 3/Keynote Speaker: Dr. Kuntal Dey, Technology R & D Senior Principal, Accenture Technology Labs.

Peer Review Policy

Authors were invited to submit full-length papers for peer-review. Each manuscript was peer-reviewed by two (2) or more technical specialists. The review process is conducted anonymously. To be published both reviewers were to agree separately that the manuscript met the standard required for publication in these proceedings. Ignoring withdrawn papers, there were 45 papers submitted and 25 accepted for oral presentations. The committee and technical chairs would like to thank all the reviewers for their diligence and for contributing their time, effort, and technical expertise to the review process.

List of Reviewers

Pankaj Pratap Singh, CIT Kokrajhar.
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