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# 2<sup>ND</sup> INTERNATIONAL CONFERENCE ON ROBOTICS, ELECTRICAL AND SIGNAL PROCESSING TECHNIQUES

## PROGRAM SCHEDULE

VIRTUAL CONFERENCE

05 – 07 JANUARY 2021

Final Update: January 4, 2021

## ICREST'21 Detailed Program Schedule

\*All times given in Bangladesh standard time (GMT +6)

DAY 1, TUESDAY JANUARY 5, 2021		
Time	Events	Virtual Room ID
9:30 - 10:00	Opening Virtual Rooms	
10:00 - 12:00	D1P1: PARALLEL SESSION 1	
10:00 - 10:30	<p><b>Invited Speech:</b>  <i>"Dynamic Spectrum Sharing, a new paradigm of Opportunities in mm wave spectrum management"</i>  <b>Mr. Emran Md. Amin</b>            RC Engineer, ACMA, Australia</p>	<a href="#">947 8717 9992</a>
10:00 - 10:30	<p><b>Invited Speech:</b>  <i>"Hyper-Scaling for Emerging Nanoelectronic Devices"</i>  <b>Dr. Mainul Hossain</b>            Assistant Professor, Dept. of EEE, DU, Bangladesh</p>	<a href="#">932 9383 1702</a>
10:00 - 12:00	D1P11 : Power, Energy & Industry App. (I)	<a href="#">934 8476 3725</a>
	D1P12 : Computing, AI, Big Data and Networking (I)	<a href="#">947 8717 9992</a>
	D1P13 : Components, Circuits & Devices (I)	<a href="#">932 9383 1702</a>
	D1P14 : Robotics, Automation & Control (I)	<a href="#">925 8260 5382</a>
12:00 - 13:00	INAUGURATION CEREMONY	<a href="#">931 8052 2273</a>
13:00 - 14:00	BREAK	
14:00 - 15:30	D1K1: PLENARY SESSION 1	
14:00 - 14:45	<p><b>Keynote 1:</b>  <i>"Convergence of Data and Big Data Analytics in Real-time Internet of Things"</i>  <b>Prof. Dr. Marimuthu Palaniswami</b>            The University of Melbourne, Australia</p>	<a href="#">931 8052 2273</a>
14:45 - 15:30	<p><b>Keynote 2:</b>  <i>"Signal, Biomedical and other Industrial Applications based on Deep Learning"</i>  <b>Prof. Dr. Celia Shahnaz</b>            Chair, IEEE BDS, Bangladesh</p>	
15:30 - 17:30	D1P2: PARALLEL SESSION 2	
15:30 - 16:00	<p><b>Invited Speech:</b>  <i>"Future of Mobility"</i>  <b>Dr. Longo Michela</b>            Assistant Professor, Politecnico di Milano, Italy</p>	<a href="#">934 8476 3725</a>

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15:30 - 16:00	<p><b>Invited Speech:</b> <i>"Technology startups and my journey with startups"</i> <b>Mr. Mohsinul Bari Shakir</b> CEO, Aqualink Bangladesh Limited, Bangladesh</p>	<a href="tel:94787179992">947 8717 9992</a>
15:30 - 16:00	<p><b>Invited Speech:</b> <i>"Innovation for Growth"</i> <b>Mr. Ariful Hasan Opu</b> CEO, e-Soft Founder, Bangladesh Innovation Forum Chief, Space Innovation Camp</p>	<a href="tel:92582605382">925 8260 5382</a>
15:30 - 17:30	D1P21 : Power, Energy & Industry App. (II)	<a href="tel:93484763725">934 8476 3725</a>
	D1P22 : Computing, AI, Big Data and Networking (II)	<a href="tel:94787179992">947 8717 9992</a>
	D1P23 : Components, Circuits & Devices (II)	<a href="tel:93293831702">932 9383 1702</a>
	D1P24 : Robotics, Automation & Control (II)	<a href="tel:92582605382">925 8260 5382</a>
17:30 - 19:00	<b>D1K2: PLENARY SESSION 2</b>	
17:30 - 18:15	<p><b>Keynote 3:</b> <i>"Importance of Energy Audit for Sustainable Development"</i> <b>Prof. Dr. A B M Siddique Hossain</b> Dean, FE, AIUB</p>	<a href="tel:93180522273">931 8052 2273</a>
18:15 - 19:00	<p><b>Keynote 4:</b> <i>"Energy Systems and Intelligent Communication, Control and Devices"</i> <b>Prof. Dr. Sonia Leva</b> Politecnico di Milano, Italy</p>	
<b>END</b>		

### DAY 2, WEDNESDAY JANUARY 6, 2021

Time	Events	Virtual Room ID
09:30 - 11:30	<b>D2P1: PARALLEL SESSION 3</b>	
9:30 - 10:00	<p><b>Invited Speech:</b> <i>"Power the Future: Distribution System in Bangladesh"</i> <b>Engr. A.K.M. Akhtaruzzaman</b> Executive Engineer, DESCO, Bangladesh</p>	<a href="tel:93484763725">934 8476 3725</a>
9:30 - 10:00	<p><b>Invited Speaker:</b> <i>"Application of Different Types of Analog Model in Mixed Signal Verification"</i> <b>Mr. Shakerin Ahmed</b> Functional Verification Engineer, Qualcomm, Singapore</p>	<a href="tel:93293831702">932 9383 1702</a>

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9:30 - 10:00	<p><b>Invited Speech:</b> "Transformation to 4IR by the Fusion of Engineering" <b>Dr. Md. Khalilur Rahman</b> Associate Professor, Dept. of CSE, Brac University, Bangladesh</p>	<a href="tel:92582605382">925 8260 5382</a>
09:30 - 11:30	D2P11 : Power, Energy & Industry App. (III)	<a href="tel:93484763725">934 8476 3725</a>
	D2P12 : Computing, AI, Big Data and Networking (III)	<a href="tel:94787179992">947 8717 9992</a>
	D2P13 : Components, Circuits & Devices (III)	<a href="tel:93293831702">932 9383 1702</a>
	D2P14 : Robotics, Automation & Control (III)	<a href="tel:92582605382">925 8260 5382</a>
11:45 - 13:15	<b>D2K1: PLENARY SESSION 3</b>	
11:45 - 12:30	<p><b>Keynote 5:</b> "Introduction to Bangabandhu Satellite – 1 and Satellite Technology" <b>Dr. Shahjahan Mahmood</b> Chairman, BCSCCL, Bangladesh</p>	<a href="tel:93180522273">931 8052 2273</a>
12:30 - 13:15	<p><b>Keynote 6:</b> "Technology uptake in post COVID-19 era" <b>Dr. Nemaï Chandra Karmakar</b> Monash University, Australia</p>	
13:15 - 14:00	<b>BREAK</b>	
14:00 - 16:00	<b>D2P2: PARALLEL SESSION 4</b>	
14:00 - 14:30	<p><b>Invited Speech:</b> "A cost-optimal pathway to integrate renewable energy into the future Vietnamese power system" <b>Dr. Dương Minh Quân</b> The University of Danang, Vietnam</p>	<a href="tel:93484763725">934 8476 3725</a>
14:00 - 14:30	<p><b>Invited Speech:</b> "Addition Chain in Application to Elliptic Curve Cryptosystem" <b>Dr. Mohamad Afendee Bin Mohamed</b> Associate Professor, Sultan Zainal Abidin University, Malaysia</p>	<a href="tel:94787179992">947 8717 9992</a>
14:00 - 14:30	<p><b>Invited Speech:</b> "Flexible, Stretchable and Transparent Antenna by Direct Laser Writing " <b>Dr. Ashikur Rahman</b> Assistant Professor, IMRAM, Tohoku University, Japan</p>	<a href="tel:93293831702">932 9383 1702</a>
14:00 - 14:30	<p><b>Invited Speech:</b> "Transitioning from Industry 4.0 to 5.0: An Industrial IoT Prospective" <b>Dr. Akhlaqur Rahman</b> Academic Coordinator and Lecturer, Engineering Institute of Technology, Australia</p>	<a href="tel:92582605382">925 8260 5382</a>
14:00 - 16:00	D2P21 : Power, Energy & Industry App. (IV)	<a href="tel:93484763725">934 8476 3725</a>
	D2P22 : Computing, AI, Big Data and Networking (IV)	<a href="tel:94787179992">947 8717 9992</a>
	D2P23 : Components, Circuits & Devices (IV)	<a href="tel:93293831702">932 9383 1702</a>

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	D2P24 : Robotics, Automation & Control (IV)	<a href="#">925 8260 5382</a>
14:00 - 15:45	<p><b>Special Session with Code 19 and Arduino:</b>  <i>"Arduino's story in the field of Robotics, IoT and skill development to meet the challenges of the Industry 4.0 revolution"</i>  <b>Massimo Sacchi</b>            Business Developer            Arduino</p>	<a href="#">931 8052 2273</a>
16:00 - 16:45	<b>D2K2: PLENARY SESSION 4</b>	
16:00 - 16:45	<p><b>Keynote 7:</b>  <i>"Review and New Method of Virtual Synchronous Generator Control of Power Systems"</i>  <b>Prof. Dr. Junji Tamura</b>            Kitami Institute of Technology, Japan</p>	<a href="#">931 8052 2273</a>
16:50 - 18:50	<b>D2P3: PARALLEL SESSION 5</b>	
16:50 - 17:20	<p><b>Invited Speech:</b>  <i>"Pushing the Efficiency of Perovskite-based Tandem Solar Cells Towards Theoretical Limits"</i>  <b>Dr. Mohammad Ismail Hossain</b>            Post-doctoral Fellow, City University of Hong Kong</p>	<a href="#">932 9383 1702</a>
16:50 - 17:20	<p><b>Invited Speech:</b>  <i>"Exploiting Non-invasive Sensors and Biosignal Processing to Improve Mental Healthcare"</i>  <b>Dr. Ahsan Khandokar</b>            Associate Professor, Khalifa University, UAE</p>	<a href="#">925 8260 5382</a>
16:50 - 18:50	D2P31 : Power, Energy & Industry App. (V)	<a href="#">934 8476 3725</a>
	D2P32 : Computing, AI, Big Data and Networking (V)	<a href="#">947 8717 9992</a>
	D2P33 : Components, Circuits & Devices (V)	<a href="#">932 9383 1702</a>
	D2P34 : Bioengineering Technologies (I)	<a href="#">925 8260 5382</a>
19:00 - 19:45	<b>D2K3: PLENARY SESSION 5</b>	
19:00 - 19:45	<p><b>Keynote 8:</b>  <i>"Cyber-Security Issues with Hybrid Energy Storage System Located in Smart Grid "</i>  <b>Dr. Mohd. Hasan Ali</b>            University of Memphis, USA</p>	<a href="#">931 8052 2273</a>
<b>END</b>		

### DAY 3, THURSDAY JANUARY 7, 2021

Time	Events	Virtual Room ID
09:30 - 11:30	D3P1: PARALLEL SESSION 6	

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09:30 - 10:00	<p><b>Invited Speech:</b>  <i>"Machine Learning and Game Theory for Smart Grid: Applications in Grid Security, Vulnerability, and Resilience"</i>  <b>Dr. Shuva Paul</b>            Post-doctoral Research Associate, Washington State University</p>	<a href="tel:94787179992">947 8717 9992</a>
09:30 - 10:00	<p><b>Invited Speech:</b>  <i>"Phase Change Memory Nanodevices for Secure Hardwares"</i>  <b>Dr. Nafisa Noor</b>            Assistant Professor, ECE, NSU, Bangladesh</p>	<a href="tel:93293831702">932 9383 1702</a>
09:30 - 10:00	<p><b>Invited Speech:</b>  <i>"The future of robotics technology in elderly health care"</i>  <b>Dr. Lafifa Jamal</b>            Professor, Department of Robotics and Mechatronics Engineering, DU, Bangladesh</p>	<a href="tel:92582605382">925 8260 5382</a>
09:30 - 11:30	D3P11 : Power, Energy & Industry App. (VI)	<a href="tel:93484763725">934 8476 3725</a>
	D3P12 : Computing, AI, Big Data and Networking (VI)	<a href="tel:94787179992">947 8717 9992</a>
	D3P13 : Components, Circuits & Devices (VI)	<a href="tel:93293831702">932 9383 1702</a>
	D3P14 : Robotics, Automation & Control (V)	<a href="tel:92582605382">925 8260 5382</a>
09:30 - 11:15	<b>DIGITAL POSTER COMPETITION</b>	<a href="tel:93180522273">931 8052 2273</a>
11:45 - 13:15	<b>D3K1: PLENARY SESSION 6</b>	
11:45 - 12:30	<p><b>Keynote 9:</b>  <i>"Greener electricity future – challenges and opportunities"</i>  <b>Prof. Dr. Syed Mahfuzul Aziz</b>            University of South Australia, Australia</p>	<a href="tel:93180522273">931 8052 2273</a>
12:30 - 13:15	<p><b>Keynote 10:</b>  <i>"Re-engineering Education in the Pandemic: e-Learning at AIUB"</i>  <b>Dr. Carmen Z Lamagna</b>            Vice Chancellor, AIUB</p>	
13:15 - 14:00	<b>BREAK</b>	
14:00 - 16:00	<b>D3P2: PARALLEL SESSION 7</b>	
14:00 - 14:30	<p><b>Invited Speech:</b>  <i>"Color Filter Free Image Sensor with Novel Materials"</i>  <b>Dr. Wayesh Qarony</b>            Post-doctoral Scholar, UC Davis</p>	<a href="tel:93484763725">934 8476 3725</a>
14:00 - 14:30	<p><b>Invited Speech:</b>  <i>"Smart Electromagnetic Environment: New Concepts and Ideas for Next Generation Communication Systems"</i>  <b>Dr. Marco Salucci</b>            Researcher, University of Trento, Italy</p>	<a href="tel:93293831702">932 9383 1702</a>
14:00 - 16:00	D3P21 : Power, Energy & Industry App. (VII)	<a href="tel:93484763725">934 8476 3725</a>
	D3P22 : Computing, AI, Big Data and Networking (VII)	<a href="tel:94787179992">947 8717 9992</a>
	D3P23 : Antenna, Propagation and Signal Processing (I)	<a href="tel:93293831702">932 9383 1702</a>
	D3P24 : Communication and Photonics (I)	<a href="tel:92582605382">925 8260 5382</a>

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15:00 - 15:45	D3K2: PLENARY SESSION 7	
15:00 - 15:45	<p style="text-align: right;"><b>Keynote 11:</b> <i>"Compressive Processing – Current Trends and Advanced Applications in Signal Processing"</i> <b>Prof. Dr. Andrea Massa</b> Director, ELEDIA Research Center, Italy</p>	<a href="tel:93180522273">931 8052 2273</a>
16:00 - 17:00	CLOSING CEREMONY AND AWARD DISTRIBUTIONS	<a href="tel:93180522273">931 8052 2273</a>
END		

## SESSION-wise program schedule

Day 1: Tuesday, January 5, 2021		
Track: [D1P11] Power, Energy & Industry App. (I)		
Venue: Room # 1		
Chair: Prof. Dr. Tareq Aziz		
Co-chair: Dr. Effat Jahan		
Date	PID	Titles
January 5, 2021; Time: 10:00 - 12:00	40	<b>Design and Simulation of a Dual Rotor Wind Turbine based PMSG System</b> <i>Islam, MD. Sadman; Hoque, S.M.Tanbinul*; Hazari, Md. Rifat; Hasan, Md Mehedi ; Uddin, Muslim</i>
	136	<b>Fuzzy Logic Controlled DC-Link Protection Scheme of PMSG Based Wind Turbine</b> <i>HAQUE, MD. ZUBAIRUL*; Hazari, Md. Rifat; Mannan, Mohammad Abdul; Tamura, Junji</i>
	139	<b>Suppression of Frequency Fluctuation of Power System by Output Control of PMSG Wind Generator</b> <i>Sato, Ryohei*; Alsharif, Faramarz; Umemura, Atsushi; Takahashi, Rion; Tamura, Junji</i>
	165	<b>Cooperative Virtual Inertia and Reactive Power Control of PMSG Wind Generator and Battery for Improving Transient Stability of Power System Including Renewable Energy Sources</b> <i>Sato, Takamasa*; Alsharif, Faramarz; Umemura, Atsushi; Takahashi, Rion; Tamura, Junji</i>
	418	<b>Fuzzy Logic Based Adaptive Overcurrent Protection for Wind Farms</b> <i>Uddin, Mohammad N*; Rezaei, Nima</i>
Track: [D1P12] Computing, AI, Big Data and Networking (I)		
Venue: Room # 2		
Chair: Prof. Dr. Shamim Akhter		
Co-chair: Dr. Mohammad Hasan Imam		
<b>Invited Talk:</b>	"Dynamic Spectrum Sharing, a new paradigm of Opportunities in mm wave spectrum management" <b>Mr. Emran Md. Amin</b> RC Engineer, ACMA, Australia	
Date	PID	Titles
January 5, 2021; Time: 10:00 - 12:00	233	<b>COVID-19 Detection using Transfer Learning with Convolutional Neural Network</b> <i>Dutta, Pramit*; Roy, Tanny; Anjum, Nafisa</i>
	353	<b>Brain Tumor Types Classification using K-means Clustering and ANN Approach</b> <i>Biswas, Angona; Islam, Md Saiful*</i>

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	370	<b>An automated cloud-based tool for Screening of Parkinson's disease in Bangladesh</b> <i>Ehsan, Tanvir*</i> ; <i>Sajal, Md. Sakibur Rahman</i> ; <i>Abdullah-Al-Mamun, Khondaker</i>
	377	<b>A Comparative Analysis of Ensemble based Machine Learning Techniques for Diabetes Identification</b> <i>Taz, Nahid Hossain*</i> ; <i>Oitijho, Abrar Islam</i> ; <i>Mahmud, Ishrak</i>
	406	<b>Improved Machine Learning based Classification Model for Early Autism Detection</b> <i>Akter, Tania</i> ; <i>Khan, Imran</i> ; <i>Satu, Md. Shahriare*</i> ; <i>Uddin, Md. Jamal</i> ; <i>Ali, Dr. Mohammad Hanif</i> ; <i>Moni, Mohammad Ali</i>
	414	<b>Ischemic Brain Stroke Detection From MRI Image Using Logistic Regression Classifier</b> <i>Hossain, Md. Shabuj</i> ; <i>Saha, Subir</i> ; <i>Paul, Liton Chandra *</i> ; <i>Azim, Rezaul</i> ; <i>SUMAN, ABDULLA AL</i>
<b>Track: [D1P13] Components, Circuits &amp; Devices (I)</b> <i>Venue: Room # 3</i>		
<b>Chair: Dr. Mainul Hossain</b> <b>Co-chair: Dr. Md. Kabiruzzaman</b>		
<b>Invited Talk:</b>		<i>"Hyper-Scaling for Emerging Nanoelectronic Devices"</i> <b>Dr. Mainul Hossain</b> Assistant Professor, Dept. of EEE, DU, Bangladesh
<b>Date</b>	<b>PID</b>	<b>Titles</b>
<b>January 5, 2021; Time: 10:00 - 12:00</b>	64	<b>Effect of Underlap with Fixed Gate Length: GaN-Based Double Gate MOSFETs</b> <i>Hasan, Md. Rokib*</i> ; <i>Islam, Md. Rabiul</i> ; <i>Bhuiyan, Tanjim Masroor</i> ; <i>Nibir, Muhib Ashraf</i> ; <i>Hasan, Md. Emran</i> ; <i>Hossain, Tanvir</i>
	184	<b>The Effects of the Substrate Doping Concentrations on 6H-SiC Nano-Scale ggNMOS ESD Protection Device</b> <i>Chowdhury, Shirazush Salekin*</i> ; <i>Arifin, Farhadur</i>
	249	<b>Sub-20nm GaAs-based Cylindrical Gate-All-Around FETs for Improved Performance</b> <i>Chakraborty, Prince Joy*</i> ; <i>Islam, Md. Mossabbarul</i> ; <i>Ahamed, Razu</i> ; <i>Chowdhury, Dr. Md. Iqbal B</i>
	309	<b>Finite Element Modeling of Synaptic Plasticity in Mushroom-type Phase Change Memory Devices for Application in Neuromorphic Systems</b> <i>Ahmed, Imtiaz*</i>
	378	<b>Efficiency Enhancement of a PCDTBT/PC71BM-based Organic Solar Cell Through Layer-thickness Optimization</b> <i>Sara, Zubeda Akhter *</i> ; <i>Chowdhury, Washikul Haider</i> ; <i>Miah, Md. Mostakim</i> ; <i>Das, Moumita</i> ; <i>Chowdhury, Dr. Md. Iqbal B</i>
	392	<b>Performance Analysis of Transition Metal Dichalcogenide Based Multichannel Cylindrical Shaped Gate All Around (GAA) MOSFET</b> <i>Hossian, Noushad*</i> ; <i>Das Gupta, Mohona</i> ; <i>Saha, Jibesh K</i>



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Track: [D1P14] Robotics, Automation & Control (I)		
Venue: Room # 4		
Chair: Dr. Lamia Iftekhar		
Co-chair: Dr. Mir Mohammad Nazmul Arefin		
Date	PID	Titles
January 5, 2021; Time: 10:00 - 12:00	116	<b>Application of Fuzzy Logic for Collision Avoidance of Mobile Robots in Dynamic-Indoor Environments</b> <i>Chabor Alwawi, Bashra Kadhim*; Mahfuz, Asif; Roth, Hubert</i>
	173	<b>A Novel Mechanism Design Technique to Develop A Vertical Climbing Robot With High Mobility For Flat And Spherical Surfaces</b> <i>Khan, Shahriar Siraj*; Akash, Alve Rahman; Maaj, Sheikh; Hassan, MD. Rakibul; Rahman, Md. Abdur</i>
	217	<b>Night Patrolling Robot</b> <i>Khalid, Farabee*; Albab, Itmamul Haque; Roy, Dipto; Asif, Azad Prince; Shikder, Kawshik</i>
	238	<b>Implementation of Cost Effective Bomb Defusing Robot with live streaming dual Camera Interface</b> <i>Chowdhury, Anjir Ahmed*; Hamid, Akter Md.; Ivan, Md. Nahian al Subri</i>
	304	<b>A Time-Varying Adaptive Inertia Weight based Modified PSO Algorithm for UAV Path Planning</b> <i>Nayeem, Golam Moktader*</i>
Track: [D1P21] Power, Energy & Industry App. (II)		
Venue: Room # 1		
Chair: Dr. Sajal Das		
Co-chair: Dr. Md. Kamrul Hasan		
<b>Invited Talk:</b>		<b>"Future of Mobility"</b> <b>Dr. Longo Michela</b> Assistant Professor, Politecnico di Milano, Italy
Date	PID	Titles
January 5, 2021; Time: 15:30 - 17:30	82	<b>Modelling and Analysis of a microgrid with diesel generator and battery system</b> <i>Ghosh, Debashish*; Shatil, Abu Hena M</i>
	118	<b>Stability Enhancement of Power System including Wind Farm by Voltage Control and Virtual Synchronous Generator Control</b> <i>Nakamura, Ayaka*; Alsharif, Faramarz; Umemura, Atsushi; Takahashi, Rion; Tamura, Junji; Sakahara, Atsushi; Tosaka, Fumihito; Nakamoto, Ryosuke</i>
	127	<b>Transient Stability Enhancement of Power System by Virtual Synchronous Generator Control of Battery</b> <i>Li, Zhichao*; Alsharif, Faramarz; Umemura, Atsushi; Takahashi, Rion; Tamura, Junji; Sakahara, Atsushi; Tosaka, Fumihito; Nakamoto, Ryosuke</i>

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	129	<b>Stabilization of Power System by Virtual Inertia Control of Adjustable Speed Synchronous Condenser</b> <i>Matsuda, Kazuya*</i> ; <i>Alsharif, Faramarz</i> ; <i>Umemura, Atsushi</i> ; <i>Takahashi, Rion</i> ; <i>Tamura, Junji</i> ; <i>Sakahara, Atsushi</i> ; <i>Tosaka, Fumihito</i> ; <i>Nakamoto, Ryosuke</i>
	164	<b>A new control strategy for frequency stabilization of small scale power system by variable speed diesel engine-driven power plant</b> <i>Takahashi, Rion*</i> ; <i>Umemura, Atsushi</i> ; <i>Tamura, Junji</i>
	205	<b>Analysis of a Hybrid Power System Including Large-Scale Wind Farm</b> <i>Chowdhury, Akib *</i> ; <i>Hazari, Md. Rifat</i> ; <i>Jahan, Effat</i> ; <i>Hossain, Chowdhury Akram A</i> ; <i>Mannan, Mohammad Abdul</i>
<b>Track: [D1P22] Computing, AI, Big Data and Networking (II)</b> <i>Venue: Room # 2</i>		
<b>Chair: Dr. Md Musfique Anwar</b> <b>Co-chair: Dr Md Abdullah Al Jubair</b>		
<b>Invited Talk:</b>		<i>"Technology startups and my journey with startups"</i> <b>Mr. Mohsinul Bari Shakir</b> CEO, Aqualink Bangladesh Limited, Bangladesh
<b>Date</b>	<b>PID</b>	<b>Titles</b>
<b>January 5, 2021; Time: 15:30 - 17:30</b>	41	<b>An Adaptive Graph Algorithm on Weighted One Mode Projection of Bipartite Graph for The Detection of Spammer Group from Online Marketplace</b> <i>Sultana, Naznin*</i> ; <i>Palaniappan, Sellappan</i> ; <i>Saha, Pratim</i>
	45	<b>Graceful Cascading Labelling Algorithm: Construction of Graceful Labelling of Trees</b> <i>Gomes, Dipta Justin*</i> ; <i>Hasan, Md. Manzurul</i>
	114	<b>Database Security as a Gateway to Privacy Preserving Data Mining</b> <i>Shanta, Fariha Jahan</i> ; <i>Ibne Momin, Mahibul Abdullah*</i> ; <i>Bhowmik, Chinmoy</i> ; <i>Haque, Dr. Md. Mokammel</i>
	153	<b>Performance Enhancement of Hadoop Mapreduce by Combining Data Inside the Mapper</b> <i>Shishir, Md. Niaj Shahriar*</i> ; <i>Yousuf, Mohammad A</i>
	160	<b>A Web Based Four-Tier Architecture using Reduced Feature Based Neural Network Approach for Prediction of Student Performance</b> <i>Hossen, Md. Anwar*</i> ; <i>Alamgir, Rakib Bin</i> ; <i>Alam, Arman Ul</i> ; <i>Siddika, Fatema</i> ; <i>Hossain, Shah Fahad</i> ; <i>Arman, Md. Shohel</i>
	303	<b>Cyber Attack Detection Model (CADM) Based on Machine Learning Approach</b> <i>Minda, Fahima Hossain*</i> ; <i>Akter, Marzana</i> ; <i>Uddin, Mohammed Nasir</i>
	312	<b>Pattern Recognition in Analog Wafermaps with Multiple Ensemble Approaches</b> <i>Akhter, Prof. Dr. Shamim*</i> ; <i>Abdullah, Md</i> ; <i>Rahman, Md. Habibur</i>
<b>Track: [D1P23] Components, Circuits &amp; Devices (II)</b> <i>Venue: Room # 3</i>		

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# ICREST

## 2<sup>ND</sup> INTERNATIONAL CONFERENCE ON ROBOTICS, ELECTRICAL AND SIGNAL PROCESSING TECHNIQUES

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Chair: Dr. Sheikh Rashed Al Ahmed Co-chair: Dr. M. Taseer Ali		
Date	PID	Titles
January 5, 2021; Time: 15:30 - 17:30	106	<b>AI Traffic Control System Based on Deepstream and IoT Using NVIDIA Jetson Nano</b> <i>Uddin, Md. Imran*; Alamgir, Md. Shahriar; Rahman, Md. Mahabubur; Shahnewaz Bhuiyan, Muhammed; Moral, Md Asif</i>
	154	<b>An IoT Based Smart Irrigation System</b> <i>Hossain Naeem, Md. Rezwan*; Gawhar, Shadman; Hoque Adib, Md. Belawal; Sakib, Sanjid Ahmed; Ahmed, Abir; Chisty, Nafiz Ahmed</i>
	262	<b>Implementing and improving the IoT based weather monitoring and controlling double discs type oil skimmer</b> <i>Khan, Md. Ansar*; Mostafa, Engr. Sk. Md. Golam; Rahman, Anisur; Hoque, Md. Mizanul; Islam, Mohammad Tawsiful</i>
	351	<b>IoT based bio-metric seat reservation and transport management system for university bus</b> <i>Eftekhar Alam, Md*; Abdul Kader, Mohammed; Parvin, Rahala; Sultana, Sharmin; Sultana, Zinnia; Muhammad, Sumaiya Deen</i>
	390	<b>Monitoring Air Quality of Dhaka using IoT: Effects of COVID-19</b> <i>Saha, Rajib *; Manu, M M R; Hoque, Aminul; Hoque, Dr. S.N.M Azizul</i>
Track: [D1P24] Robotics, Automation & Control (II) Venue: Room # 4		
Chair: Dr. Piyush Dhuliya Co-chair: Dr. Mir Mohammad Nazmul Arefin		
<b>Invited Talk:</b>		<b>"Innovation for Growth"</b> <b>Mr. Ariful Hasan Opu</b> CEO, e-Soft Founder, Bangladesh Innovation Forum. Chief, Space Innovation Camp
Date	PID	Titles
January 5, 2021; Time: 15:30 - 17:30	138	<b>Crop Condition Analyzer Robot with Image Processing Feedback to Assist Farmer</b> <i>Rafi, Shoyeb Ahammad; Chowdhury, Toukir Hasan; Rahaman, Dewan Md. Anisur; Bari, Md. Washimul; Islam, Md. Jahidul; Tanjim, Meer Shadman Shafkat*</i>
	222	<b>Cyclic Task-Based Affordable Robot for Medicine-Intake Purpose of COVID-19 Patient</b> <i>Oishi, Ashrafun Nushra; Tanjim, Meer Shadman Shafkat*; Palash, Minar Mahmud; Barua, Sourav; Sarkar, Md. Rashel; Rafi, Shoyeb Ahammad</i>
	289	<b>DESIGN AND IMPLEMENTATION OF ASSISTIVE ROBOT FOR THE ELDERLY AND IMPAIRED PERSON</b> <i>Hossain, Md. Yousuf; Zarif, Shahriar rahman*; Rahman, Md. Mahboobur; Ahmed, Abir; Zishan, Md. Saniat Rahman</i>

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298	<b>Design and Implementation of an IoT Based Firefighting and Affected Area Monitoring Robot</b> <i>Hossain, Md Anowar*</i> ; Roy, Himaddri Shakhar; Khondakar, Md. Fazlul Karim; Sarowar, Md. Hasib; Hossain, Md. Azad
340	<b>Unmanned Aerial Vehicle for Automatic Detection of Concrete Crack using Deep Learning.</b> <i>Saeed, Meer Shadman*</i>
376	<b>Unmanned Aerial Vehicle for Cleaning and Firefighting Purposes</b> <i>Jaber, Raiyan Al*</i> ; Sikder, Shoaib; Hossain, Rowsson Ara; Malia, Kh. Fatetema Nur; Rahman, Md. Abdur

### Day 2: Wednesday, January 6, 2021

Track: [D2P11] Power, Energy & Industry App. (III)

Venue: Room # 1

Chair: Prof. Dr. Muhammad Abdul Goffar Khan

Co-chair: Dr. Md. Rifat Hazari

**Invited Talk:**

"Power the Future: Distribution System in Bangladesh"

**Engr. A.K.M. Akhtaruzzaman**

Executive Engineer, DESCO, Bangladesh

Date	PID	Titles
January 6, 2021; Time: 09:30 - 11:30	19	<b>Design, Simulation and Comparison of Three-phase Symmetrical Hybrid Sinusoidal PWM fed Inverter with Different PWM Techniques</b> <i>Mahbub, Mohiuddin*</i> ; Hossain, Mohammad Ali
	20	<b>Comparative Analysis of Five Different PWM Techniques on Three-Phase Voltage Source Inverter fed Induction Motor Drive</b> <i>Mahbub, Mohiuddin*</i>
	140	<b>A Novel 24-Pulse Star Rectifier Using Simple Passive Injection Method at DC Link</b> <i>Malek, Md. Abdul*</i> ; Khan, Muhammad Abdul Goffar
	401	<b>Comparison Study of Inductive Coupling and Magnetic Resonant Coupling Method for Wireless Power Transmission of Electric Vehicles</b> <i>YOUSUF, MD. ABU</i> ; Das, Tushar Kumar*; Khallil, Md. Ebrahim; Ab. Aziz, Nor Azlina; Rana, Md. Jewel; Hossain, Sajeeb

Track: [D2P12] Computing, AI, Big Data and Networking (III)

Venue: Room # 2

Chair: Dr. Shatabda Swakkhar

Co-chair: Dr. Md. Sakir Hossain

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Date	PID	Titles
January 6, 2021; Time: 09:30 - 11:30	42	<b>Automatic Machine Translation for Bangla and English Resolving Ambiguities</b> <i>Tuhin, Ohidujjaman*</i> ; <i>Faysal, Fahim</i> ; <i>Sumon, Shams</i> ; <i>Huda, Nurul</i>
	119	<b>Bengali Handwritten Character Transformation: Basic to Compound and Compound to Basic Using Convolutional Neural Network</b> <i>Chakraborty, Soarov*</i> ; <i>Paul, Shourav</i>
	151	<b>Detection of Compatibility, Proximity and Expectancy of Bengali Sentences using Long Short Term Memory</b> <i>Haider Chowdhury, Md. Ashraful*</i> ; <i>Mumenin, Nasirul</i> ; <i>Taus, Muhammad</i> ; <i>Yousuf, Mohammad A</i>
	219	<b>Bangladeshi Banknote Recognition in Real-time using Convolutional Neural Network for Visually Impaired People</b> <i>Tasnim, Rahnuma</i> ; <i>Pritha, Sadia Tasnuva</i> ; <i>Das, Annesha*</i> ; <i>Dey, Ashim</i>
	391	<b>Towards Tolerating Soft Errors in TCAM</b> <i>Alam, Samrat*</i> ; <i>Zobayer, Abdullah Al</i> ; <i>Sadi, Dr. Md. Sheikh</i>
<b>Track: [D2P13] Components, Circuits &amp; Devices (III)</b> <i>Venue: Room # 3</i>		
<b>Chair: Dr. Jia Uddin</b> <b>Co-chair: Dr. Md. Kabiruzzaman</b>		
<b>Invited Talk:</b>		
		<b>Mr. Shakerin Ahmed</b> Functional Verification Engineer, Qualcomm, Singapore
Date	PID	Titles
January 6, 2021; Time: 09:30 - 11:30	134	<b>Attaining High Efficiency with Low Voltage Gain: Performance Evaluation of the Proposed DC-DC Buck Converter</b> <i>Soheli, Sairatun Nesa*</i>
	135	<b>Designing a Highly Effective DC-DC Buck Converter for Sustainable Electronic Applications</b> <i>Soheli, Sairatun Nesa*</i>
	156	<b>Comparative Analysis and Exploration of a High Gain Input Current Shaped AC-DC Step-Up Converter with Feedback Controller</b> <i>Akter, Khadiza*</i> ; <i>Islam, Md. Nafiul</i> ; <i>Nahid, Firuz Ahamed</i> ; <i>Soheli, Sairatun Nesa</i>
	157	<b>Solar Powered Tea Harvester With Isolated Charging Station in Sylhet, Bangladesh</b> <i>Biswas, Shasoto</i> ; <i>Kabir, Md. Arraf*</i> ; <i>Rabby, Md. Fazla</i> ; <i>Nazmi, Nushrah Nourin</i> ; <i>Faiz, Rethwan</i>
	299	<b>Comprehensive Analysis of a Bridgeless AC-DC Modified Cuk Converter with Maximized Performance by Using PFC Scheme</b> <i>Akter, Khadiza*</i>

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Track: [D2P14] Robotics, Automation & Control (III)		
Venue: Room # 4		
Chair: Dr. Muhammad Aminur Rahman		
Co-chair: Dr. Mohammad Hasan Imam		
Invited Talk:		
		"Transformation to 4IR by the Fusion of Engineering" <b>Dr. Md. Khalilur Rahman</b> Associate Professor, Dept. of CSE, Brac University, Bangladesh
Date	PID	Titles
January 6, 2021; Time: 09:30 - 11:30	128	<b>Smart Agriculture Robotic System Based on Internet of Things to Boost Crop Production</b> <i>Hasan, Mehedi; Uddin, Kamrul Nazir Walli; Sayeed, Ahasan; Tasneem, Tasnuva*</i>
	226	<b>Eye Pupil Controlled Transport Riding Wheelchair</b> <i>Akanto, Jannatul Mawa; Islam, Md. Kamrul*; Hakim, Ajijul; Sojun, Md. Azizul Hoque ; Shikder, Kawshik</i>
	245	<b>EEG BASED HUMAN ASSISTANCE ROVER FOR DOMESTIC APPLICATION</b> <i>Bin Nasir, Tafhim*; Mukit Lalin, Md. Abdul; Niaz, Kabir; Karim, Md. Razaul; Rahman, Md. Abdur</i>
	345	<b>Design and Implementation of A Human Prosthetic Hand</b> <i>Keerthi, Pritam Saha*; mamun, Salman Al; Tonima, Raihana Alam; Shanta, Shamia Akter; Ahmed, Abir; Zishan, Md. Saniat Rahman</i>
	363	<b>Smart Waste Management System for Bangladesh</b> <i>Khan, Arafat Ali*; Sajib, Arif Akram; Shetu, Farhana; Bari, Saimum ; Zishan, Md. Saniat Rahman; Shikder, Kawshik</i>
Track: [D2P21] Power, Energy & Industry App. (IV)		
Venue: Room # 1		
Chair: DR. RATIL H. ASHIQUE		
Co-chair: Dr. Effat Jahan		
Invited Talk:		
		"A cost-optimal pathway to integrate renewable energy into the future Vietnamese power system" <b>Dr. Dương Minh Quân</b> The University of Danang, Vietnam
Date	PID	Titles
January 6, 2021; Time: 14:00 - 16:00	74	<b>Blockchain-Based Peer-to-Peer Sustainable Energy Trading in Microgrid using Smart Contracts</b> <i>Niloy, Fardin Ahmed; Nayeem, Md. Abu*; Rahman, Md. Majedur; Dowla, Md. Nozib Ud</i>
	79	<b>Simulation Based Analysis of Switching and Lightning transient effects on Extra High Voltage AC Overhead Transmission Line</b> <i>AHAMAD, SHIHAB UDDIN*; Farjana, Faija; Islam, Tamanna; Khan, Md Ali Azam</i>
	149	<b>The Data Acquisition and Control Unit Design for Demand Side Low-Cost Customized SCADA</b> <i>Tanjim, Meer Shadman Shafkat*; Saleque, Ahmed Mortuza; Rahman, Md. Abdur</i>

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	264	<b>The analysis of some results of electrical capacitance and dissipation factor measurements</b> <i>Kostiukov, Ivan*</i>
	267	<b>A GRU-GA Hybrid Model Based Technique for Short Term Electrical Load Forecasting</b> <i>Inteha, Azfar ; Masood, Dr Nahid Al*</i>
	413	<b>An Unsupervised Protection Scheme for Overhead Transmission Line with Emphasis on Situations During Line and Source Parameter Variation</b> <i>Fahim, Shahriar Rahman*; Niloy, Sarker; Shatil, Abu Hena M; Hazari, Md. Rifat; Sarker, Subrata; Das, Sajal</i>
<b>Track: [D2P22] Computing, AI, Big Data and Networking (IV)</b> <i>Venue: Room # 2</i>		
<b>Chair: Dr. Mohammad Shahriar Rahman</b> <b>Co-chair: Dr. Mahub Mishu</b>		
<b>Invited Talk:</b>		<b>Dr. Mohamad Afendee Bin Mohamed</b> Associate Professor, Sultan Zainal Abidin University, Malaysia
<b>Date</b>	<b>PID</b>	<b>Titles</b>
January 6, 2021; Time: 14:00 - 16:00	113	<b>Convolutional Neural Network-based Enhancement Method of 3D MRI</b> <i>Islam, Dr. Rafiqul *; Islam, Md. Shafiqul</i>
	196	<b>A Comparative Study on Heart Disease Prediction Using Data Mining Techniques and Feature Selection</b> <i>Tasnim, Farzana*; Umme Habiba, Sultana</i>
	218	<b>Machine Learning based Analysis to Predict Autism by Investigating Eye-tracking Dataset</b> <i>Akter, Tania; Khan, Imran; Satu, Md. Shahriar*; Ali, Dr. Mohammad Hanif; Moni, Mohammad Ali</i>
	241	<b>Hepatocellular Carcinoma Patient's Survival Prediction using Oversampling and Machine Learning Techniques</b> <i>Al Islam, Ferdib*; Akter, Laboni; Islam, Md. Milon</i>
	350	<b>An Efficient Method to Classify Brain Tumor using CNN and SVM</b> <i>Sejuti, Zarin Anjuman; Islam, Md Saiful*</i>
<b>Track: [D2P23] Components, Circuits &amp; Devices (IV)</b> <i>Venue: Room # 3</i>		
<b>Chair: Dr. Ashikur Rahman</b> <b>Co-chair: Dr. Ferdous Jahan Shawon</b>		
<b>Invited Talk:</b>		<i>"Flexible, Stretchable and Transparent Antenna by Direct Laser Writing "</i> <b>Dr. Ashikur Rahman</b> Assistant Professor, IMRAM, Tohoku University, Japan
<b>Date</b>	<b>PID</b>	<b>Titles</b>
January 6, 2021	168	<b>Design of Smart Biofloc for Real-Time Water Quality Management System</b> <i>Ahamed, Istiaque*; Ahmed, Abir</i>

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	242	<b>Performance analysis of High Frequency Class E Feedback amplifier with Schmitt Trigger driver</b> <i>Sikder, Shoaib*; Ali, M Tanseer</i>
	380	<b>Design of an Area Efficient Quantum Dot Cellular Automata Based Full Adder Cell Having Low Latency</b> <i>Joy, Upal Barua; Chakraborty, Shourov; Tasnim, Sumaiya; Hossain, Md Shahadat; Siddique, Abdul Hasib; Hasan, Mehedi*</i>
	385	<b>Design of a Polymer Based On-Skin Temperature Sensor</b> <i>Choyon, Md Mashrur Sakib*; Sad, A. S. M. Mehedi Hasan; Rhydwan, Abu Hasnat Md; Shikder, Kawshik; Hossain, Chowdhury Akram A</i>
	407	<b>Design and Evaluation of High-Performance FIR Filter using 45nm Technology</b> <i>Juthi, Farhana Sayed*; Bhuiyan, Hasibul Hasan; Babul, Muntasir ; Hasan, Mehedi; Arifin, Farhadur</i>
<b>Track: [D2P24] Robotics, Automation &amp; Control (IV)</b> <i>Venue: Room # 4</i>		
<b>Chair: Dr. Golam Rabiul Alam</b> <b>Co-chair: Dr. Mir Mohammad Nazmul Arefin</b>		
<b>Invited Talk:</b>		<i>"Transitioning from Industry 4.0 to 5.0: An Industrial IoT Prospective"</i> <b>Dr. Akhlaqur Rahman</b> Academic Coordinator and Lecturer, Engineering Institute of Technology, Australia
<b>Date</b>	<b>PID</b>	<b>Titles</b>
<b>January 6, 2021; Time: 14:00 - 16:00</b>	81	<b>Optimized PID Control Scheme for Three Phase Micro-grid System</b> <i>Roni, Md. Hassanul Karim*; Rana, Dr Md. Sohel</i>
	155	<b>Improved Secondary Network Voltage Control with Stability Analysis for PV Based Microgrid</b> <i>Hasan, Mahdi; Sultana, Rezwana Sultana; Sarker, Subrata*; Rashid, Md. Mamunur; Sheikh, Md. Rafiqul Islam; Das, Sajal</i>
	216	<b>Stable Matching based Parking Lot Allocation for Autonomous Vehicles</b> <i>Rahman, Ashiqur*; Rahman, Koushiqur; Alam, Dr. Golam Rabiul</i>
	261	<b>Microcontroller Based Environmental Pollution Monitoring System through IOT Implementation</b> <i>Nowshin, Nadia*; Hasan, Md. Shajedul</i>
	333	<b>Smart Transformer Theft Protection and Maintenance Monitoring System</b> <i>Fahim, Abrar; Chowdhury, Muhtasim*; Alam, Md. Ferdosh; Elahi, Fazle; Shourov, Chowdhury Erfan; Hasan, Mehedi</i>
	409	<b>Development of a Secured and Low-budget Biometric Electronic Voting Machine for Bangladesh</b> <i>Ahmed, Md. Shihab Uddin; Rouf, Nirjhor Tahmidur*; Hasan, A N M Shahebul; Hasan, Md Abid; Rozario, Omi Evance; Rahman, A.A.M. Faiyaz; Saleh, Sheikh Raihan Al; Aditto, Shadman Shakib</i>



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Track: [D2P31] Power, Energy & Industry App. (V)		
Venue: Room # 1		
Chair: Dr. Mohammad Ismail Hossain		
Co-chair: Dr. Md. Kamrul Hasan		
Date	PID	Titles
January 6, 2021; Time: 16:50 - 18:50	143	<b>Development of a Solar Powered Electric Vehicle based on Tadpole Design</b> <i>Tahjib, Alam*; Tanzin, Humaiya; Rahman, S M Imrat ; Shariful Islam, Bhuiyan; Azim, Hasan</i>
	166	<b>3-phase IM Controlled Solar Electric Boat for Portable Irrigation and Recreational Purposes by using 300V DC/AC Drivetrain</b> <i>Uddin, Mohammad Rejwan*; Sakib, Iftadul Islam; Faruque,, Khan Farhan Ibne; Sakib, Nazmus; Salim, Khosru M.</i>
	220	<b>Scroll Saw Machine Fabrication with High-Speed 3-Phase VFD Motor Drives for Photovoltaic Small Wooden Industrial Application of Off-grid Areas</b> <i>Sarkar, Samrat Tonmoy; Muhtaseem, Juned Ahmad; Uddin, Mohammad Rejwan*; Salim, Khosru M.</i>
	232	<b>Design of a Simulation Program to Model Vulcanization Ovens in Glove Manufacturing</b> <i>Tan, Ai Hui*; Tou, Teck Yong; Yap, Timothy Tzen Vun</i>
	285	<b>Solar Photovoltaic-Based Smart Metering System</b> <i>Rasheed Tajwar, Ahmed Shah; Ahmed, Abir*; Hazari, Md. Rifat; Mannan, Mohammad Abdul</i>
Track: [D2P32] Computing, AI, Big Data and Networking (V)		
Venue: Room # 2		
Chair: Prof. Dr. Mohammad A Yousuf		
Co-chair: Dr. Md Mehedi Hasan		
Date	PID	Titles
January 6, 2021; Time: 16:50 - 18:50	86	<b>Implementing Fuzzy Analytical Hierarchy Process (FAHP) To Measure Malicious Behaviour of Codes in Smart Meter</b> <i>Mahbub, Tasmima Noushiba*; Hossain, Syed Sadia; Akash, Rakib Ahmad; Reza, S M Salim; Tasnim, Zarin</i>
	120	<b>Prediction of Apple Leaf Diseases Using Multiclass Support Vector Machine</b> <i>Chakraborty, Soarov*; Paul, Shourav; Zaman, Rahat uz</i>
	208	<b>Prediction of Flood in Bangladesh using k-Nearest Neighbors Algorithm</b> <i>Gauhar, Noushin; Das, Sunanda *; Moury, Khadiza Sarwar</i>
	213	<b>A Leaf Disease Classification Model in Betel Vine Using Machine Learning Techniques</b> <i>Hasan, Md Zahid*; Zeba, Nahid; Malek, Md. Abdul; Reya, Sanjida Sultana</i>
	215	<b>A Crop Pest Classification Model Using Deep Learning Techniques</b> <i>Hasan, Md Zahid*; Malek, Md. Abdul; Reya, Sanjida Sultana; Hossain, Shakhawat</i>
	280	<b>Transfer Learning Approach for Plant Leaf Disease Detection Using CNN with Pre-Trained Feature Extraction Method Mobilnetv2</b> <i>Sattar, Abdus AS*</i>

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<b>Track: [D2P33] Components, Circuits &amp; Devices (V)</b>		
<i>Venue: Room # 3</i>		
<b>Chair: Dr. Tawheed Kibria</b>		
<b>Co-chair: Dr. Nadia Anam</b>		
<b>Invited Talk:</b>		
<i>"Pushing the Efficiency of Perovskite-based Tandem Solar Cells Towards Theoretical Limits"</i>		
<b>Dr. Mohammad Ismail Hossain</b>		
<i>Post-doctoral Fellow, City University of Hong Kong</i>		
<b>Date</b>	<b>PID</b>	<b>Titles</b>
<b>January 6, 2021; Time: 16:50 - 18:50</b>	77	<b>GSM-GPRS Based Smart Street Light</b> <i>Kabir, Imran; AHAMAD, SHIHAB UDDIN; Uddin, Mohammad Naim; Hossain, Shah Mohazzem; Farjana, Faija*; Datta, Partha; Riad, MD. Raduanul Alam; Haider, Md Hossam-E</i>
	147	<b>Proposing a Real-Time Ticket Monitoring System for Public Transport in NSW, Australia</b> <i>Ali, Syed Shafin S*; Rawdah, Rawdah</i>
	202	<b>Road Accident Prevention by Detecting Drowsiness &amp; Ensure Safety Issues</b> <i>SOHEL, RANA; MD RABBI HASAN, FAYSAL*; SAJAL CHANDRA, SAHA; ABDULLAH ALL, NOMAN; Shikder, Kawshik</i>
	230	<b>Voice Activated Portable Braille with Audio Feedback</b> <i>Faisal, Fahad; Hasan, Mehedi; Sabrin, Samia*; Hasan, Md. Zahid; Siddique, Abdul Hasib; Mamun, Abdullah Al; Karim, Asif</i>
	341	<b>Design and Development of Lane Management and Automatic Toll Collection System</b> <i>Ahmed, Tanim*; Hassan, Md. Mahedi; Sultana, Rabeka; Afif, Abu Numan; Zishan, Md. Saniat Rahman</i>
<b>Track: [D2P34] Bioengineering Technologies (I)</b>		
<i>Venue: Room # 4</i>		
<b>Chair: Dr. Mohammad Abdul Motin</b>		
<b>Co-chair: Dr. Mohammad Hasan Imam</b>		
<b>Invited Talk:</b>		
<i>"Exploiting Non-invasive Sensors and Biosignal Processing to Improve Mental Healthcare"</i>		
<b>Dr. Ahsan Khandokar</b>		
<i>Associate Professor, Khalifa University, UAE</i>		
<b>Date</b>	<b>PID</b>	<b>Titles</b>
<b>January 6, 2021; Time: 16:50 - 18:50</b>	97	<b>Treatment of Water Algae by Water Surface Discharge Plasma</b> <i>Ahmed, Raju*</i>
	148	<b>NeuroSpy: A low-cost portable IoT enabled EEG and ECG data processor</b> <i>Hassin, Manzar E; Khan, Riasat *</i>
	221	<b>Design of a Line Following Wheelchair for Visually Impaired Paralyzed Patient</b> <i>Shoovo, Gullam Rabbani; Dey, Bishal; Akash, MD. Kamrujjaman; Motahara, Tasnim; Imam, Mohammad Hasan*</i>

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	322	<b>EEG-Based Load Control System for Physically Challenged People</b> <i>BALA, PRITAM*</i> ; Arnob, Redowan M; Islam, Mahbulul; adib, Shahariar Mahmud; Hasan, Fayed-Al-; Uddin, Dr. Mohammad Nasir
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### Day 3: Thursday, January 7, 2021

Track: [D3P11] Power, Energy & Industry App. (VI)

Venue: Room # 1

Chair: Dr. Taskin Jamal

Co-chair: Dr. Md. Rifat Hazari

Date	PID	Titles
January 7, 2021; Time: 09:30 - 11:30	43	<b>A Neutral Point Clamped Grid Feeding Voltage Source Inverter with an Improved Control Technique for Solar PV System</b> <i>Jahan, Sumaya S*</i> ; Biswas, Shuvra Prokash; Hossain, Md. Kamal
	49	<b>LVRT Performance Analysis and Transient Stability Augmentation of a Grid-Tied PV System</b> <i>Mahmud, S. M. Istiaque*</i> ; Mannan, Mohammad Abdul; Hazari, Md. Rifat
	83	<b>Augmentation of Battery Management Systems in Smart-Grid operation using Fuzzy Logic</b> <i>Nahar, Sabiqun*</i> ; Arnob, Redowan M; Shatil, Abu Hena M
	91	<b>Analysis of an IGBT Based AC Chopper Driving RL Load for Oscillation Free Output Voltage</b> <i>Islam, Md Mayenul*</i> ; Khan, Muhammad Abdul Goffar; Malek, Md. Abdul; ul Hoque, Md Yahyah
	197	<b>Incorporating Multi-Agent Systems Technology in Power and Energy Systems of Bangladesh: A Feasibility Study</b> <i>MD Hassan, Syed Redwan*</i> ; Hasan, Nazmul; Siddique, Mohammad Ali; Fahim, K. M. Solaiman; Rahman, Rummana; Iftekhar, Dr. Lamia
	223	<b>FEASIBILITY STUDY OF AN AUTOMATIC GRID-TIED SOLAR IRRIGATION SYSTEM FOR RURAL APPLICATION</b> <i>Chowdhury, Nusrat; Chowdhury, Akib *</i> ; Hossain, Chowdhury Akram A; Longo, Michela; Yaici, Wahiba

Track: [D3P12] Computing, AI, Big Data and Networking (VI)

Venue: Room # 2

Chair: Dr. Selina Sharmin

Co-chair: Dr. Afroza Nahar

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<b>Invited Talk:</b>		<i>"Machine Learning and Game Theory for Smart Grid: Applications in Grid Security, Vulnerability, and Resilience"</i> <b>Dr. Shuva Paul</b> Post-doctoral Research Associate, Washington State University
<b>Date</b>	<b>PID</b>	<b>Titles</b>
January 7, 2021; Time: 09:30 - 11:30	158	<b>A Novel Framework for Blockchain Based Driving License Management and Driver's Reputation System for Bangladesh</b> <i>Islam, MD. Sakibul; Islam, Tahmidul; Alam, Md. Raiyan; Mazumder, Md. Mumtahn Habib Ullah*; Haque, Ebtasam A</i>
	177	<b>Business Forecasting System using Machine Learning Approach</b> <i>Mia, Md. Anisur Rahman*; Yousuf, Mohammad A; Ghosh, Rupon</i>
	179	<b>Credit Card Approval Prediction by Non-negative Tensor Factorization</b> <i>Zarnaz, Zaima*; Biswas, Dipannita; HASAN, K. M. AZHARUL</i>
	257	<b>Detection of Mosquito Larvae Using Convolutional Neural Network</b> <i>Saeed, Meer Shadman*; Nazreen, Syeda Fahima; Azmatullah, Syed; Rinku, Zannatul Ferdous; Rahman, Md. Abdur</i>
	384	<b>SFC: A Lightweight Blockchain Model for Smart Food Industry</b> <i>Yasmin, Samia*; Sohan, Md. Faruk Abdullah Al; Bin Anwar, Md. Navid; Hasan, Mehedi; Hossain, G.M. Farhad</i>
	395	<b>Increasing Throughput and Reducing Storage Bloating Problem Using IPFS and Dual-Blockchain Method</b> <i>Sohan, MD. Soharab Hossain*; Mahmud, Minhaz; Sikder, M. A. Baten; Hossain, Fakir Sharif; Hasan, Md. Rakibul</i>
<b>Track: [D3P13] Components, Circuits &amp; Devices (VI)</b> <i>Venue: Room # 3</i>		
<b>Chair: Dr. Tanvir Hassan</b> <b>Co-chair: Dr. Ferdous Jahan Shaun</b>		
<b>Invited Talk:</b>		<i>"Phase Change Memory Nanodevices for Secure Hardwares"</i> <b>Dr. Nafisa Noor</b> Assistant Professor, ECE, NSU, Bangladesh
<b>Date</b>	<b>PID</b>	<b>Titles</b>
January 7, 2021; Time: 09:30 - 11:30	66	<b>Smart Security Device for Women Based on IoT Using Raspberry Pi</b> <i>Ghosh, Prottasha; Bhuiyan, Tanjim Masroor; Nibir, Muhib Ashraf; Hasan, Md. Emran; Islam, Md. Rabiul; Hasan, Md. Rokib*; Hossain, Tanvir</i>
	161	<b>Designing of A Handbag for Women Safety</b> <i>Ali, M Tanseer*; Islam, Nuzhat Shakira; Rakib, Md Wahiduzzaman; Ahmed, Rafid Al; Kaicher, Mohammad Hamdan</i>
	269	<b>Developing a device for kitchen safety and reduction of gas wastage</b> <i>Eftekhar Alam, Md*; Abdul Kader, Mohammed; Muhammad, Sumaiya Deen; Momo, Sabrina Akter; Rahman, Saida; Alam, Imtiaz</i>

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	300	<b>Design and Development of Uncapped Manhole Detection System for Waterlogged Roads</b> <i>Tasin, Habib Shahorier*</i> ; Rahman, Md. Asif; Sarkar, Md. Shad; Shara, Sarmim Huq; Zishan, Md. Saniat Rahman
	372	<b>Implementation of Cascaded Multilevel Inverter with Reduced Number of Components</b> <i>Uddin, M Jawad*</i> ; Islam, Dr. Md. Shahidul
<b>Track: [D3P14] Robotics, Automation &amp; Control (V)</b> <i>Venue: Room # 4</i>		
<b>Chair: Dr. Laxman P Thakare</b> <b>Co-chair: Dr. Md. Humayun Kabir</b>		
<b>Invited Talk:</b>		<i>"The future of robotics technology in elderly health care"</i> <b>Dr. Lafifa Jamal</b> Professor, Department of Robotics and Mechatronics Engineering, DU, Bangladesh
<b>Date</b>	<b>PID</b>	<b>Titles</b>
January 7, 2021; Time: 09:30 - 11:30	34	<b>Optimization of Temperature and Relative Humidity in an Automatic Egg Incubator Using Mamdani Interference System</b> <i>Dutta, Pramit*</i> ; Anjum, Nafisa
	101	<b>A Smart Natural Gas Leakage Detection and Control System for Gas Distribution Companies of Bangladesh using IoT</b> <i>Paul, Hilton*</i> ; saifullah, Md. khalid; Kabir, Md.Monirul
	144	<b>Automatic Synchronization Unit For Marine Alternators</b> <i>Siddiqi, Md. Tanvir Ahmed*</i> ; Rasul, Md.Muhtasim; Hossain, Shah Mohazzem
	247	<b>IMAGE BASED AUTOMATIC TRAFFIC SURVEILLANCE SYSTEM THROUGH NUMBER-PLATE IDENTIFICATION AND ACCIDENT DETECTION</b> <i>SUNNY, S. M.*</i> ; Rahman, Towhidur; Ahmed, Kazi Firoz; Zohrul Islam, S. M.; Mujtaba, Asif
	318	<b>Adrisya Sahayak: A Bangla Virtual Assistant for Visually Impaired</b> <i>Sultan, Md Rakibuz ; Moinul Hoque, Md*</i> ; Heeya, Farah Ulfath; Ahmed, Iftiqar ; Ferdouse, Md.Redwanul; Ahmed Mubin, Shikder Mejbah
<b>Track: [D3P21] Power, Energy &amp; Industry App. (VII)</b> <i>Venue: Room # 1</i>		
<b>Chair: Prof. Dr. M. Abdur Razzak</b> <b>Co-chair: Dr. Md. Rifat Hazari</b>		
<b>Invited Talk:</b>		<i>"Color Filter Free Image Sensor with Novel Materials"</i> <b>Dr. Wayesh Qarony</b> Post-doctoral Scholar, UC Davis
<b>Date</b>	<b>PID</b>	<b>Titles</b>
January 7, 2021; Time: 11:30 - 1:30	46	<b>Producing Electricity Using Ion Harvesting Technology</b> <i>Hussain, Faheem*</i> ; Pal, Asish; Islam, MD Jobayer; Howlader, Durlove; Hossain, MD. Sajid
	99	<b>Modification of Receiver to Improve the Efficiency of Parabolic Trough Collector</b> <i>Fuad, Assrafujzaman*</i> ; Basak, Saikat

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	163	<b>Prospect of Mini-Hydel Power Generation in Drainage Systems of Dhaka</b> <i>Ali, M M Naushad *; Nahian, Ahmed Jaudat; Siddique, Abdul Hasib; Hasan, Mehedi; Chowdhury, Nusrat; Hossain, Ch. Akram</i>
	243	<b>Oxyhydrogen Power Plant-the next new option to Energy Generation</b> <i>Hassan, Md Shahriyar*; Sarker, Md Razib; Chowdhury, Nusrat</i>
	259	<b>Amelioration of the floating solar panel with Fuzzy Logic</b> <i>Arnob, Redowan M*; Nahar, Sabiqun; Aziz, Mohibbul; Hasan, Kasfi; Uddin, Dr. Mohammad Nasir</i>
	314	<b>Design, simulation and testing of a high quality converter for renewable energy system</b> <i>Duong, Quan M; Hossain, Chowdhury Akram A*; Nicoleta, Gabriela</i>
<b>Track: [D3P22] Computing, AI, Big Data and Networking (VII)</b>		
<i>Venue: Room # 2</i>		
<b>Chair: Prof. Dr. Yoshinori Kuno</b>		
<b>Co-chair: Dr. Md. Humayun Kabir</b>		
<b>Date</b>	<b>PID</b>	<b>Titles</b>
<b>January 7, 2021; Time: 14:00 - 16:00</b>	176	<b>Electronic Medical Record Data Sharing Through Authentication and Integrity Management</b> <i>Nirjhor, MD. Kaim Iftahaj*; Yousuf, Mohammad A; Mhaboob, Md. Shariar</i>
	181	<b>Performance Comparison for Data Retrieval from NoSQL and SQL Databases: A Case Study for COVID-19 Genome Sequence Dataset</b> <i>Chakraborty, Soarov*; Paul, Shourav; HASAN, K. M. AZHARUL</i>
	234	<b>Analysis of Micro Duty Cycle Techniques for Efficient SMAC</b> <i>Abrar, Ehsanul*; Hassan, Mir Naemul; Biswas, Md. Asrafal; Jahid, Md.Sarwar; Mazid-Ul-Haque, Md.; Islam, Sohikul</i>
	258	<b>Illegal Trash Thrower Detection Based on HOG-SVM for a Real-Time Monitoring System</b> <i>Sarker, Nibir; Chaki, Sudipto*; Das, Avishek; Forhad, Md. Shafiul Alam</i>
	293	<b>A Comparative Study on Fake Job Post Prediction Using Different Data mining Techniques</b> <i>Habiba, Sultana Umme*; Islam, Md. Khairul; Tasnim, Farzana</i>
	294	<b>A Comparative Study to Predict the Diabetes Risk Using Different Kernels of Support Vector Machine</b> <i>Raihan, Md. Mohsin Sarker; Raihan, M.*; Akter, Laboni</i>
<b>Track: [D3P23] Antenna, Propagation and Signal Processing (I)</b>		
<i>Venue: Room # 3</i>		
<b>Chair: Prof. Dr. Mostafa Zaman Chowdhury</b>		
<b>Co-chair: Dr. M. Tanseer Ali</b>		
<b>Invited Talk:</b>		<i>"Smart Electromagnetic Environment: New Concepts and Ideas for Next Generation Communication Systems"</i> <b>Dr. Marco Salucci</b> Researcher, University of Trento, Italy
<b>Date</b>	<b>PID</b>	<b>Titles</b>

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January 7, 2021; Time: 14:00 - 16:00	130	<b>Sparse Antenna Array Performance and Degree of Freedom Improvement by Optimization Methods</b> <i>Chowdhury, Md Waqeeb Tahmeed Sayeed*</i> ; <i>Mastora, Maisha</i>
	263	<b>18.7 GHz 4-Bit PIN Diode Reflection Type Phase Shifter for Radiometer Phased Array Antenna</b> <i>Trinh, Kim Tuyen*</i> ; <i>Feng, Jiewei</i> ; <i>Karmakar, Nemaï Chandra</i>
	308	<b>Design of a Compact Simple Structured Dual-band Patch Antenna for Wireless On-body Medical and Sports Devices</b> <i>Ahmad, Shamim*</i> ; <i>Md. Mehedee, Hasan</i> ; <i>M Rashed Bin, Hossain</i> ; <i>Hasan, Raja Rashidul</i> ; <i>Ibna Abbas, Fysol</i> ; <i>Imam, Mohammad Hasan</i>
	335	<b>On the Enhancement of Secrecy Multicast Capacity over <math>\kappa</math>-<math>\mu</math>/ IG Composite Fading Channel</b> <i>Hossen, Md. Shakhawat</i> ; <i>Badrudduza, A. S. M. *</i> ; <i>Hanif, Abu</i> ; <i>Kundu, Milton Kumar</i> ; <i>Mahmud, Md. Firoz</i> ; <i>Sarkar, Md. Zahurul Islam Sarkar</i>
	381	<b>Enhancing Security of Image Steganography Using Visual Cryptography</b> <i>Islam, Muhammad Aminul*</i> ; <i>Riad, Md. Al-Amin Khan</i> ; <i>Pias, Tanmoy Sarkar</i>
	387	<b>Design of Double Inverted F-shaped Dual Wideband Microstrip Antenna for WLAN, WiMAX Wireless Communication</b> <i>HAKIM, MD. AZIZUL*</i> ; <i>Patwary, Adnan B</i> ; <i>Hossain, Md. Azad</i>
<b>Track: [D3P24] Communication and Photonics (I)</b> <i>Venue: Room # 4</i>		
<b>Chair: Prof. Dr. Md. Shamim Ahsan</b> <b>Co-chair: Dr. Mohammad Nasir Uddin</b>		
<b>Date</b>	<b>PID</b>	<b>Titles</b>
January 7, 2021; Time: 14:00 - 16:00	141	<b>Mid-Infrared Supercontinuum generation in Liquid Filled Hexagonal Photonic Crystal Fiber</b> <i>Esa, Shahria Farid*</i> ; <i>Ahmad, Redwan</i> ; <i>Alam, Khandaker Rafsan</i> ; <i>Faruqe, Omar</i>
	145	<b>An Analysis on GNSS Parameters over Bangladesh Intended for Developing a SBAS</b> <i>Sadman, A. A. M Shah*</i> ; <i>Haider, Md Hossam-E</i>
	189	<b>Nicotine Sensing by Photonic Crystal Fiber in THz Regime</b> <i>Jibon, Rayhan Habib*</i> ; <i>Ahmed, Moaz</i> ; <i>Rahaman, Md. Ekhlatur</i> ; <i>Hasan, Md. Khaled</i> ; <i>Shaikh, Md. Murad</i> ; <i>Tooshil, Abul</i>
	290	<b>BER Performance of 2D-OCDMA through UWO Link</b> <i>Islam, Md. Rabiul*</i> ; <i>Islam, Md. Jahedul</i>
	334	<b>Analysis of Energy Transfer between Bismuth and Erbium at 830 nm Pump</b> <i>Ahmed, Md. Bulbul*</i> ; <i>Islam, S M Rezwanul</i> ; <i>Sathi, Dr. E J Zinat Mahol</i> ; <i>Afrin, Alea</i>
	342	<b>Optimization and Performance Analysis of 32 Channel 60 Gbps Hybrid Mono Stage MZM based WDM PON covering 120 km Transmission Distance</b> <i>Bristy, Irin*</i>