

2017 20th International Conference on Computer and Information Technology (ICCIT 2017)

**Dhaka, Bangladesh
22 – 24 December 2017**



**IEEE Catalog Number: CFP1717D-POD
ISBN: 978-1-5386-1151-7**

**Copyright © 2017 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP1717D-POD
ISBN (Print-On-Demand):	978-1-5386-1151-7
ISBN (Online):	978-1-5386-1150-0

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

RESPIRATION MONITORING BY USING ECG	1
<i>Muhammad Towhidur Rahman ; Muhammad Abdul Kadir ; A. H. M Zaidul Karim ; Md. Abdullah Al Mahmud</i>	
REVERSIBLE DATA HIDING WITH IMAGE BIT-PLANE SLICING	6
<i>Hussain Nyeem</i>	
CONTENT BASED PADDY LEAF DISEASE RECOGNITION AND REMEDY PREDICTION USING SUPPORT VECTOR MACHINE	12
<i>Farhana Taznim Pinki ; Nipa Khatun ; S. M. Mohidul Islam</i>	
PROPOSAL AND CHARACTERISATION OF A CPW FEED MINIATURIZED IMPLANTABLE PATCH ANTENNA FOR BIOMEDICAL APPLICATIONS	17
<i>Liton Chandra Paul ; Md. Salman Hossain</i>	
PROPOSAL OF WIDE BANDWIDTH AND VERY MINIATURIZED HAVING DIMENSION OF μM RANGE SLOTTED PATCH THZ MICROSTRIP ANTENNA USING PBG SUBSTRATE AND DGS	23
<i>Liton Chandra Paul ; Md. Monimul Islam</i>	
OPTIMIZATION OF COLLABORATIVE TRANSPORTATION SCHEDULING IN SUPPLY CHAIN MANAGEMENT WITH TPL USING CHEMICAL REACTION OPTIMIZATION	29
<i>Md. Riaz Mahmud ; Rayhan Morshed Pritom ; Md. Rafiqul Islam</i>	
A STYLOMETRIC ANALYSIS ON BENGALI LITERATURE FOR AUTHORSHIP ATTRIBUTION	35
<i>M. Tahmid Hossain ; Md. Moshir Rahman ; Sabir Ismail ; Md Saiful Islam</i>	
INVESTIGATION OF CLOUD ATTENUATION OVER BANGLADESH FOR MICROWAVE COMMUNICATIONS	40
<i>Md. Golam Murtuza ; A. Z. M. Imran ; Md. Imtiaz Kamrul ; Razu Ahmed ; Abdul Gafur</i>	
UNDERSTANDING DHAKA CITY TRAFFIC INTENSITY AND TRAFFIC EXPANSION USING GRAVITY MODEL	46
<i>Md Abu Sayed ; Md Maksudur Rahman ; Moinul Islam Zaber ; Amin Ahsan Ali</i>	
EFFICIENT LSB SUBSTITUTION FOR INTERPOLATION BASED REVERSIBLE DATA HIDING SCHEME	52
<i>Md. Abdul Wahed ; Hussain Nyeem</i>	
AN IMPROVED ALGORITHM FOR STRING MATCHING USING INDEX BASED SHIFTING APPROACH	58
<i>Tania Islam ; Kamrul Hasan Talukder</i>	
A HEURISTICS-BASED KEYWORD AND PHRASE RANKING IN THE TEXT CORPUS FOR QUESTION ANSWERING SYSTEMS	62
<i>Md. Moinul Hoque ; Paulo Quaresma</i>	
DISPARITY BETWEEN THE PROGRAMMATIC VIEWS AND THE USER PERCEPTIONS OF MOBILE APPS	68
<i>Nahida Sultana Chowdhury ; Rajeev R. Raje</i>	
SPECTROGRAM SEGMENTATION FOR BIRD SPECIES CLASSIFICATION BASED ON TEMPORAL CONTINUITY	74
<i>Md. Shamim Towhid ; Md. Mijanur Rahman</i>	
ONTOLOGICAL KNOWLEDGE EXTRACTION FROM NATURAL LANGUAGE TEXT	78
<i>Syed Tauhid Zuhori ; Md. Asif Zaman ; Firoz Mahmud</i>	
POLARITY DETECTION OF ONLINE NEWS ARTICLES BASED ON SENTENCE STRUCTURE AND DYNAMIC DICTIONARY	84
<i>Muhammad Usama Islam ; Faisal Bin Ashraf ; Ali Imam Abir ; M. A. Mottalib</i>	
SINGLE IMAGE SUPER-RESOLUTION USING BACK-PROPAGATION NEURAL NETWORKS	89
<i>Mohammad S. Hasan ; Salman Taseen Haque</i>	
AN APPLICATION OF PRE-TRAINED CNN FOR IMAGE CLASSIFICATION	94
<i>M. S. Abdullah ; Mohammad S. Hasan</i>	
BANGLA GRAPHEME TO PHONEME CONVERSION USING CONDITIONAL RANDOM FIELDS	100
<i>Shammur Absar Chowdhury ; Firoj Alam ; Naira Khan ; Sheak R. H. Noori</i>	
AN AUTOMATED SYSTEM TO DETECT AND RECOGNIZE VEHICLE LICENSE PLATES OF BANGLADESH	106
<i>Sudipto Chandra ; Md. Al-amin Nowshad ; M. Jahirul Islam ; Marium-E-Jannat Mukta</i>	

RIVER TIDE LEVEL PREDICTION: A DATA MINING APPROACH FOR HYDROGRAPHIC TIME SERIES DATA ANALYSIS	112
<i>Fahim Ifteker Ahmed ; Md. Rezaul Islam ; Mohammad Shazzad Hossan ; Risul Islam Rassel ; Nasrin Sultana</i>	
A PERFORMANCE ANALYSIS OF A TYPICAL SERVER RUNNING ON A CLOUD	118
<i>Tangila I. Tanni ; Mohammad S. Hasan</i>	
AN EMPIRICAL STUDY OF COAP BASED SERVICE DISCOVERY METHODS FOR CONSTRAINED IOT NETWORKS USING COOJA SIMULATOR	124
<i>Rahatara Ferdousi ; Md. Helaluddin ; Aysha Akther ; Kazi Masudul Alam</i>	
DESIGN OF A MUSCLE MOVEMENT BASED CONTROL SYSTEM	130
<i>Tauhidul Haque ; Hasan Khaled Rouf</i>	
A FEATURE BASED METHOD FOR REAL TIME VEHICLE DETECTION AND CLASSIFICATION FROM ON-ROAD VIDEOS	134
<i>Md. Shamim Reza Sajib ; Saifuddin Md. Tareeq</i>	
AN APPLICATION OF MACHINE LEARNING TO DETECT ABUSIVE BENGALI TEXT	145
<i>Shahnoor C. Eshan ; Mohammad S. Hasan</i>	
HOW DISCERNIBLE IS USER IMPROMPTU BEHAVIOR WHEN UNLOCKING A TOUCH SCREEN?	151
<i>Khandaker Abir Rahman ; Joseph G. Maes</i>	
CONVOLUTIONAL NEURAL NETWORK APPROACH FOR VISION BASED STUDENT RECOGNITION SYSTEM	156
<i>Nusrat Mubin Ara ; Nishikanto Sarkar Simul ; Md. Saiful Islam</i>	
QUESTION CLASSIFICATION USING SUPPORT VECTOR MACHINE WITH HYBRID FEATURE EXTRACTION METHOD	162
<i>Syed Mehedi Hasan Nirob ; Md. Kazi Nayeem ; Md. Saiful Islam</i>	
SECURE DOMAIN NAME SERVICE IN SOFTWARE DEFINED NETWORK	168
<i>Vishal Gupta ; Shrey Shah ; Shantanu Shrivastava</i>	
KALMAN FILTER BASED LOCATION ESTIMATION OF MACHINES IN M2M COMMUNICATION OVER CELLULAR NETWORKS	174
<i>S. Das</i>	
AUTOMATIC AUTHORSHIP DETECTION FROM BENGALI TEXT USING STYLOMETRIC APPROACH	180
<i>Nazmul Islam ; Mohammed Moshikul Hoque ; Mohammad Rajib Hossain</i>	
THE COMBINATION OF SPECTRAL ENTROPY, ZERO CROSSING RATE, SHORT TIME ENERGY AND LINEAR PREDICTION ERROR FOR VOICE ACTIVITY DETECTION	186
<i>Thein Htay Zaw ; Nu War</i>	
BI-LEVEL MULTI-OBJECTIVE IMAGE SEGMENTATION USING TEXTURE-BASED COLOR FEATURES	191
<i>Kazi Shah Nawaz Riton ; Sarfaraz Newazi ; Lasker Ershad Ali ; Jimwen Ma</i>	
A NOVEL ENCRYPTION MODEL FOR TEXT MESSAGES USING DELAYED CHAOTIC NEURAL NETWORK AND DNA CRYPTOGRAPHY	197
<i>Sudipta Singha Roy ; Shaikh Akib Shahriyar ; Md. Asaf-Uddowla ; Kazi Md. Rokibul Alam ; Yasuhiko Morimoto</i>	
A MACHINE LEARNING APPROACH ON LATENT SEMANTIC ANALYSIS FOR AMBIGUITY CHECKING ON BENGALI LITERATURE	203
<i>Ayesha Siddika Nipu ; Urmee Pal</i>	
CRIME NEWS ANALYSIS: LOCATION AND STORY DETECTION	207
<i>Mehedee Hassan ; Mohammad Zahidur Rahman</i>	
WEB SERVICE PERFORMANCE ENHANCEMENT FOR PORTABLE DEVICES MODIFYING SOAP SECURITY PRINCIPLE	213
<i>Debasish Chakroborti ; Sristy Sumana Nath</i>	
A MACHINE LEARNING APPROACH FOR STYLOMETRIC ANALYSIS OF BANGLA LITERATURE	220
<i>Urmee Pal ; Ayesha Siddika Nipu ; Sabir Ismail</i>	
AN INITIAL CENTROID SELECTION METHOD BASED ON RADIAL AND ANGULAR COORDINATES FOR K-MEANS ALGORITHM	225
<i>Md Shamsur Rahim ; Tanvir Ahmed</i>	
A SHORT TERM WIND SPEED FORECASTING USING SVR AND BP-ANN: A COMPARATIVE ANALYSIS	231
<i>Sheikh Nurunnahar ; Dalia Bari Talukdar ; Risul Islam Rassel ; Nasrin Sultana</i>	
A SUPPORT VECTOR MACHINE MIXED WITH STATISTICAL REASONING APPROACH TO PREDICT MOVIE SUCCESS BY ANALYZING PUBLIC SENTIMENTS	237
<i>Quazi Ishtiaque Mahmud ; Asif Mohaimen ; Md Saiful Islam ; Marium-E-Jannat</i>	

A PROBABILISTIC APPROACH FOR OBTAINING AN OPTIMIZED NUMBER OF SERVICES USING WEIGHTED MATRIX AND MULTIDIMENSIONAL SCALING	243
<i>Anika Sayara ; Md. Shahriar Hossain ; Md. Shahriar Hossain</i>	
IMPUTATION OF MISSING HEALTHCARE DATA	249
<i>Mohaimanul Hoque Chowdhury ; Muhammad Kamrul Islam ; Shahidul Islam Khan</i>	
DESIGN AND IMPLEMENTATION OF MICROCONTROLLER BASED ASSISTIVE ROBOT FOR PERSON WITH BLIND AUTISM AND VISUAL IMPAIRMENT	255
<i>Abu Tayab Noman ; M. A. M. Chowdhury ; Humayun Rashid ; S. M. Saifur Rahman Faisal ; Iftekhar Uddin Ahmed ; S. M. Taslim Reza</i>	
EFFICIENT ROUTE SELECTION IN AD HOC ON-DEMAND DISTANCE VECTOR ROUTING	260
<i>Md. Ashraf Uddin ; Arnisha Akther ; Shamima Parvez ; Andrew Stranieri</i>	
CLOUD-POA: A CLOUD-BASED MAP ONLY IMPLEMENTATION OF PO-MSA ON AMAZON MULTI-NODE EC2 HADOOP CLUSTER	266
<i>Nafis Neehal ; Dewan Ziaul Karim ; Ashraful Islam</i>	
A SIMPLE ACUTE MYOCARDIAL INFARCTION (HEART ATTACK) PREDICTION SYSTEM USING CLINICAL DATA AND DATA MINING TECHNIQUES	272
<i>Procheta Nag ; Saikat Mondal ; Foysal Ahmed ; Arun More ; M. Raihan</i>	
A COMPARISON BETWEEN SUPPORT VECTOR MACHINE (SVM) AND BOOTSTRAP AGGREGATING TECHNIQUE FOR RECOGNIZING BANGLA HANDWRITTEN CHARACTERS	278
<i>Asish Kumar Ghosh ; Shyla Afroge</i>	
NOVEL VENUS PHOTONIC CRYSTAL FIBER STRUCTURE WITH LOW LOSS OVER S+C+L+U WAVELENGTH BANDS AND LARGE NEGATIVE DISPERSION	283
<i>Sabrina Abedin ; Avijit Hira ; Sayeb Mohammad Tadvin</i>	
LINK PREDICTION BY CORRELATION ON SOCIAL NETWORK	287
<i>Md. Shafiur Rahman ; Leema Rani Dey ; Sajal Haider ; Md. Ashraf Uddin ; Manowarul Islam</i>	
EXPLORING HUMAN EMOTION VIA TWITTER	293
<i>Abu Zonayed Riyadh ; Nasif Alvi ; Kamrul Hasan Talukder</i>	
PERFORMANCE ANALYSIS OF OPENFLOW BASED SOFTWARE DEFINED WIRED AND WIRELESS NETWORK	298
<i>Mehedy Hasan Rafsan Jany ; Nazrul Islam ; Rahamatullah Khondoker ; Md. Ahsan Habib</i>	
HISTOPATHOLOGICAL BREAST-IMAGE CLASSIFICATION WITH IMAGE ENHANCEMENT BY CONVOLUTIONAL NEURAL NETWORK	304
<i>Abdullah-Al Nahid ; Ferdous Bin Ali ; Yinan Kong</i>	
EXPLORER-0100: AN AUTONOMOUS NEXT GENERATION MARS ROVER.....	310
<i>Md Mainul Hasan Polash ; Sanjida Nasreen Tumpa ; Sadman Sakib Saunik ; Mahmuda Binte Rashid Samia ; Muhtasim Fuad Rafid ; Saborni Shernaj Binte Elahi ; Priyanka Kundu Mousmi ; Shubhashis Roy Dipta ; Toki Tahmid Inan ; Sahrma Jannat Oishwee ; S. M. Anisur Rahman ; M. M. Karim ; A. B. M. H. Kabir</i>	
DESIGN OF A LOW COST AND CONVENIENT HADOOP APPLICATION FOR EXTRACTING CONSUMER BEHAVIOR	317
<i>M. R. Zakiullah ; M. S. Islam</i>	
BANGLADESHI HAND SIGN LANGUAGE RECOGNITION FROM VIDEO	321
<i>Umme Santa ; Farzana Tazreen ; Shayhan Ameen Chowdhury</i>	
A SIMPLE WAY OF IMAGE ENCRYPTION USING PIXEL SHUFFLING AND PIXEL MANIPULATION	325
<i>Sharafat Hossain ; Masud An Nur Islam Fahim</i>	
BANGLA HANDWRITTEN NUMERAL CHARACTER RECOGNITION USING DIRECTIONAL PATTERN	329
<i>Talha Ibn Aziz ; Al Shahriar Rubel ; Md Sirajus Salekin ; Rafsanjany Kushol</i>	
AN EFFICIENT SUCCESSIVE AUTHENTICATION SCHEME FOR VEHICULAR AD-HOC NETWORKS.....	334
<i>Sanjay Saha ; Md. Mamun Elahi ; Md. Mahfuzul Islam ; Shabbir Ahmed</i>	
A SYSTEM FOR RECOMMENDING COLLEGES TO HSC APPOINTEES USING SLOPE ONE ALGORITHM	342
<i>Summit Haque ; Moqsadur Rahman ; Sheikh Nabil Mohammad</i>	
ISOLATED BANGLA HANDWRITTEN CHARACTER RECOGNITION WITH CONVOLUTIONAL NEURAL NETWORK	348
<i>Mujadded Al Rabbani Alif ; Sabbir Ahmed ; Muhammad Abul Hasan</i>	
DESIGN A LIGHTWEIGHT LOW POWER MULTIPLIER CIRCUITS USING QUANTUM DOT CELLULAR AUTOMATA ARCHITECTURE	354
<i>Nazmul Hasan ; Rajon Bardhan ; Hanif Bhuiyan</i>	

IMPROVING RELIABLE CLOUD COMPUTING ENVIRONMENT USING FUZZY LOGIC	359
<i>Himadri Shekhar Mondal ; Md. Tariq Hasan ; Md. Bellal Hossain ; Rajib Mandal</i>	
GOSSIP: A SOCIAL INTEREST BASED ROUTING ALGORITHM FOR POCKET SWITCHED NETWORK	363
<i>Mahrin Tasfe ; Amitabha Chakrabarty</i>	
DETECTION AND ANALYSIS OF HIJAB BASED ON VISUAL FEATURE OF NECK AND HAIR	369
<i>Md. Khaliluzzaman ; Afroja Begum ; Syeda Kaniz Fatama ; Md. Monirul Islam</i>	
MOTOR IMAGERY CLASSIFICATION USING SUBBAND TANGENT SPACE MAPPING	375
<i>Abu Saleh Musa Miah ; Md. Rabiul Islam ; Md. Khademul Islam Molla</i>	
CROWDSOURS: A CROWDSOURCED REPUTATION SYSTEM FOR IDENTIFYING DECEPTIVE ONLINE CONTENTS	380
<i>Masiur Rahman Siddiki ; Md. Abu Talha ; Farida Chowdhury ; M. S. Ferdous</i>	
A FRAMEWORK FOR ENHANCING BANGLA DOCUMENT IMAGES PRINTED ON NEWSPRINT PAPERS	386
<i>Antara Mahmud ; Md Mainul Hasan Polash ; Md. Adnan Kamal ; Anika Binte Islam ; Hasan Sarwar</i>	
IMPACT OF SOCIAL NETWORKING SITES ON POST-PARTUM DEPRESSION IN WOMEN: AN ANALYSIS IN THE CONTEXT OF BANGLADESH	392
<i>Abir Saha ; Maitraye Das</i>	
DB2KB: A FRAMEWORK TO PUBLISH A DATABASE AS A KNOWLEDGE BASE	398
<i>Mahmudul Hasan Bhuiyan ; Amrit Bhattacharjee ; Rudra Pratap Deb Nath</i>	
REDUCTION OF GESTURE FEATURE DIMENSION FOR IMPROVING THE HAND GESTURE RECOGNITION PERFORMANCE OF NUMERICAL SIGN LANGUAGE	405
<i>Rasel Ahmed Bhuiyan ; Abdul Kawsar Tushar ; Akm Ashiquzzaman ; Jungpil Shin ; M. Rashedul Islam</i>	
TOWARDS DEVELOPING AN INTELLIGENT SYSTEM TO SUGGEST OPTIMAL PATH BASED ON HISTORIC AND REAL-TIME TRAFFIC DATA	411
<i>Ashratuz Zavin ; Adnan Sharif ; Anika Ibnat ; Wali Mohammad Abdullah ; Muhammad Nazrul Islam</i>	
RANSHUNT: A SUPPORT VECTOR MACHINES BASED RANSOMWARE ANALYSIS FRAMEWORK WITH INTEGRATED FEATURE SET	417
<i>M. M. Hasan ; Md. Mahbubur Rahman</i>	
NAMED ENTITY CLASSIFICATION USING DEPENDENCY GRAMMAR	424
<i>Faruk Ahmad ; Md-Mizanur Rahoman</i>	
APPLICATION FOR INTEGRATING MICROCONTROLLERS TO INTERNET OF THINGS	431
<i>Syed Mariful Huq ; M. Ashikur Rahman ; Sabbir M. Saleh</i>	
RHYTHMIC COMPONENT RETRIEVAL FROM EOG ARTIFACT OF ELECTROENCEPHALOGRAPHY SIGNALS	435
<i>Sania Zahan ; Md. Ashaduzzaman Milu ; Md. Khademul Islam Molla</i>	
A MACHINE LEARNING APPROACH TO PREDICT MOVIE BOX-OFFICE SUCCESS	439
<i>Nahid Quader ; Md. Osman Gani ; Dipankar Chaki ; Md. Haider Ali</i>	
SENTIMENT ANALYSIS FOR BANGLA SENTENCES USING CONVOLUTIONAL NEURAL NETWORK	446
<i>Md. Habibul Alam ; Md-Mizanur Rahoman ; Md. Abul Kalam Azad</i>	
A NOBLE COLOR-TEXTURE HYBRID METHOD FOR CONTENT-BASED IMAGE RETRIEVAL	452
<i>Fahim Mohiuddin ; Ishmam Hossain ; Md. Wasi Ul Kabir</i>	
SURVEY OF DOMAIN SPECIFIC LANGUAGES TO BUILD PACKET PARSERS FOR INDUSTRIAL PROTOCOLS	458
<i>Shubham Bhardwaj ; Pedro Larbig ; Rahamatullah Khondoker ; Kpatcha Bayarou</i>	
SECURITY ANALYSIS OF IEEE 802.21 STANDARD IN SOFTWARE DEFINED WIRELESS NETWORKING	464
<i>Asma Islam Swapna ; Nazrul Islam</i>	
THE VOICE ENABLED STICK - AN EMBEDDED DEVICE FOR ACTIVE GUIDANCE OF VISUALLY IMPAIRED PEDESTRIANS	469
<i>Hafiz M. U. Munir ; Fahad Mahmood ; Ayesha Zeb ; Fahad Mehmood ; Umar S. Khan ; Javaid Iqbal</i>	
OPTIMIZATION OF SELECTED PARAMETERS OF THE FOREST GROWTH MODEL BIOME-BGC (VERSION ZALF) USING HOPSPACK	474
<i>H. M. Mehedi Hasan ; Hubert Jochheim ; Alfred Schultz</i>	
SCALABLE MICRO-SERVICE BASED APPROACH TO FHIR SERVER WITH GOLANG AND NO-SQL	481
<i>Fahim Shariar Shoumik ; Md. Ibna Masum Millat Talukder ; Ahmed Imtiaz Jami ; Neeaz Wahed Protik ; Md. Moinul Hoque</i>	

BACK TO THE BASICS: READ CRITICALLY, REFLECT PRUDENTLY AND WRITE ANALYTICALLY	486
<i>Muztaba Fuad ; Debzani Deb</i>	
BENGALI SPEECH RECOGNITION: A DOUBLE LAYERED LSTM-RNN APPROACH	491
<i>Md Mahadi Hasan Nahid ; Bishwajit Purkaystha ; Md Saiful Islam</i>	
A NOVEL TECHNIQUE FOR RECOGNITION AND TRACKING OF MOVING OBJECTS BASED ON E-MACH AND PROXIMATE GRADIENT (PG) FILTERS	497
<i>Haris Masood ; Saad Rehman ; Muazzam Khan ; Qaiser Javed ; M. Abbas ; M. Alam ; Rupert Young</i>	
EXHAUSTIVE STUDY OF ESSENTIAL CONSTRAINT SATISFACTION PROBLEM TECHNIQUES BASED ON N-QUEENS PROBLEM	503
<i>Md. Ahsan Ayub ; Kazi A. Kalpoma ; Humaira Tasnim Proma ; Syed Mehrab Kabir ; Rakib Ibna Hamid Chowdhury</i>	
EVALUATION OF MACHINE TRANSLATION APPROACHES TO TRANSLATE ENGLISH TO BENGALI	509
<i>Shamsun Nahar ; Mohammad Nurul Huda ; Md. Nur-E-Arefin ; Mohammad Mahbubur Rahman</i>	
PRODUCT RECOMMENDATION: A DEEP LEARNING FACTORIZATION METHOD USING SEPARATE LEARNERS	514
<i>Bishwajit Purkaystha ; Tapos Datta ; Md Saiful Islam ; Marium-E-Jannat</i>	
BENGALI HANDWRITTEN CHARACTER RECOGNITION USING DEEP CONVOLUTIONAL NEURAL NETWORK	519
<i>Bishwajit Purkaystha ; Tapos Datta ; Md Saiful Islam</i>	
EYE MONITORED DEVICE FOR DISABLE PEOPLE	524
<i>Asfand Ateem ; Zeeshan Ali Akbar ; Mairaj Ali ; Muhammad Asad Bashir</i>	
A SURVEY ON EMOTION DETECTION: A LEXICON BASED BACKTRACKING APPROACH FOR DETECTING EMOTION FROM BENGALI TEXT	530
<i>Tapasy Rabeya ; Sanjida Ferdous ; Himel Suhita Ali ; Narayan Ranjan Chakraborty</i>	
RANGE ESTIMATION IN RADAR USING MAXIMUM LIKELIHOOD ESTIMATOR	537
<i>Haleema Sadia ; Sabahat Sherien ; Hafsa Iqbal ; Muhammad Zeeshan ; Aimal Khan ; Saad Rehman</i>	
REDUCING NETWORK OVERHEAD OF IOTDTLS PROTOCOL EMPLOYING CHACHA20 AND POLY1305	542
<i>Maliha Momtaz Islam ; Sourav Paul ; Md. Mokammel Haque</i>	
TCAD BASED PERFORMANCE ANALYSIS OF JUNCTIONLESS CYLINDRICAL DOUBLE GATE ALL AROUND FET UP TO 5NM TECHNOLOGY NODE	549
<i>N. M. Mahmud Hossain ; Sakib Quader ; Abu Bakar Siddik ; Md. Iqbal Bahar Chowdhury</i>	

Author Index