

2019 International Electronics Symposium (IES 2019)

**Surabaya, Indonesia
27 – 28 September 2019**



**IEEE Catalog Number: CFP19D37-POD
ISBN: 978-1-7281-4450-4**

**Copyright © 2019 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:	CFP19D37-POD
ISBN (Print-On-Demand):	978-1-7281-4450-4
ISBN (Online):	978-1-7281-4449-8

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

IDENTIFICATION OF SYMPTOMS BASED ON NATURAL LANGUAGE PROCESSING (NLP) FOR DISEASE DIAGNOSIS BASED ON INTERNATIONAL CLASSIFICATION OF DISEASES AND RELATED HEALTH PROBLEMS (ICD-11)	1
<i>Fariz Bramasta Putra ; Alviansyah Arman Yusuf ; Heri Yulianus ; Yogi Putra Pratama ; Dzakiyah Salma Humairra ; Urfiyatul Erifani ; Dwi Kurnia Basuki ; Sritrusta Sukaridhoto ; Rizqi Putri Nourma Budiarti</i>	
RECIPROCITY ENHANCEMENT IN V2V KEY GENERATION SYSTEM BY USING HPK METHOD	6
<i>Inka Trisna Dewi ; Amang Sudarsono ; Prima Kristalina ; Mike Yuliana</i>	
A PROPOSAL OF ENTERTAINMENT AND PERFORMANCE LEARNING ASSISTANT SYSTEM FOR SENIORS	14
<i>Irin Tri Anggraini ; Achmad Basuki ; Nobuo Funabiki</i>	
LABORATORY ATTENDANCE DASHBOARD WEBSITE BASED ON FACE RECOGNITION SYSTEM	19
<i>Resha Dwika Hefni Al-Fahsi ; Aleksander Patar Jiwandono Pardosi ; Kevin Aldian Winanta ; Thea Kirana ; Okta Fajar Suryani ; Igi Ardiyanto</i>	
INSTANCE-BASED DEEP TRANSFER LEARNING ON CROSS-DOMAIN IMAGE CAPTIONING	24
<i>Rizal Setya Perdana ; Yoshiteru Ishida</i>	
ONLINE TRAJECTORY GENERATION FOR DIFFERENTIAL DRIVE MOBILE ROBOTS USING MULTI-DIMENSIONAL RATE LIMITERS	31
<i>Anja Patricia Regina Lauer ; Naoki Uchiyama ; Oliver Sawodny</i>	
AN EMOTIONAL DISTANCE CALCULATION FOR RECOMMENDING MUSICAL FILMS IN KANSEI SPACE	37
<i>Moeko Iijima ; Yasushi Kiyoki ; Shiori Sasaki</i>	
MOVING OBJECTS COUNTING DASHBOARD WEB APPLICATION DESIGN	45
<i>Kevin Aldian Winanta ; Thea Kirana ; Resha Dwika Hefni Al-Fahsi ; Aleksander Patar Jiwandono Pardosi ; Okta Fajar Suryani ; Igi Ardiyanto</i>	
AN ETHICAL REVIEW OF OPERATING PROCEDURES CONCERNING THE CURRENT CONDITION OF 7 MHZ AMATEUR BAND USAGE IN INDONESIA	49
<i>Titon Dutono</i>	
BRIGHTNESS ON LEDS FOR LIGHT FIDELITY APPLICATIONS AND MEASUREMENTS	53
<i>Tamara Maharani ; Muhammad Agus Zainuddin ; Sritrusta Sukaridhoto</i>	
SHAPE RECOGNITION OF MATERIAL HEAPS IN OUTDOOR ENVIRONMENTS AND OPTIMAL EXCAVATION PLANNING	58
<i>Martin Satoshi Finkbeiner ; Naoki Uchiyama ; Oliver Sawodny</i>	
HYBRID MAXIMUM POWER POINT TRACKING USING ARTIFICIAL NEURAL NETWORK-INCREMENTAL CONDUCTION WITH SHORT CIRCUIT CURRENT OF SOLAR PANEL	63
<i>Muhammad Nizar Habibi ; Novie Ayub Windarko ; Anang Tjahjono</i>	
EFFICIENT ENERGY FOR CLUSTER HEAD SELECTION USING NEW LEACH-BASED ROUTING PROTOCOL IN WIRELESS SENSOR NETWORK	70
<i>Aidil Saputra Kirsan ; M. Udin Harun Al Rasyid ; Iwan Syarif</i>	
A CYBER-PHYSICAL LEARNING ENVIRONMENT DESIGN FOR STUDY TRAJECTORY CREATION	76
<i>Yasuhiro Hayashi ; Ryota Nakamura ; Osamu Hasegawa ; Yuichi Kitano ; Yasushi Kiyoki</i>	
KINEMATIC AND DYNAMIC MODELLING OF "T-FLOW" HUMANOID ROBOT FOR ASCENDING AND DESCENDING STAIR	82
<i>Wulandari Puspita Sari ; R. Sanggar Dewanto ; Dadet Pramadihanto</i>	
SECURITY SYSTEM FOR DATA LOCATION OF TRAVELLING USER USING RSA BASED ON GROUP SIGNATURE	88
<i>Anindya Dwi Putri Islamidina ; Amang Sudarsono ; Titon Dutono</i>	
3D INDOOR MAPPING BASED ON CAMERA VISUAL ODOMETRY USING POINT CLOUD	94
<i>Krisna Adji Syahputra ; Bima Sena Bayu Dewantara ; Dadet Pramadihanto</i>	
DYNAMIC STABILITY WALKING ON INCLINED SURFACE FOR "T-FLOW" HUMANOID ROBOT USING DESIGN PATTERN STEP	100
<i>Adi Sucipto ; Sanggar Dewanto ; Dadet Pramadihanto</i>	
A REPORT OF C-CLASS SOLAR FLARE AFFECTING NVIS LINK AT 5 MHZ BAND	105
<i>Titon Dutono ; Zulmi Zakariyah ; Tri Budi Santoso</i>	

POINT MAPPING FROM 2D FACE TO 3D FACE USING LINEAR EQUATION WITH GAUSS ELIMINATION	110
<i>Hero Yudo Martono ; Susi Harliani</i>	
AT-MO: WIRELESS DATA COLLECTION SYSTEM FOR PHYSIOLOGY MONITORING OF ATHLETE.....	115
<i>Dhodit Rengga Tisna ; M. Udin Harun Al Rasyid ; Sritrusta Sukaridhoto</i>	
SPEED AND BALANCING CONTROL OF TWO CABLES PULLEY-GRIPPER SYSTEM FOR DELIVERY DRONE.....	120
<i>Husein Aji Pratama ; Raden Sanggar Dewanto ; M. Lukman Baidhowi ; Dimas Pristovani Riananda ; Riza Syah ; Dadet Pramadihanto ; Eko Henfri Binugroho</i>	
2D MAPPING AND LOCALIZATION USING LASER RANGE FINDER FOR OMNIDIRECTIONAL MOBILE ROBOT.....	126
<i>Achmad Aditya Kusumo ; Bayu Sandi Marta ; Bima Sena Bayu Dewantara ; Dadet Pramadihanto</i>	
DEVELOPMENT OF EDUCATION GAME WEB HUB FOR PARENT GUIDANCE REFERENCE TO THE CHILDREN.....	132
<i>Mohamad Safrodin ; Fahim Nur Cahya Bagar ; Danang Sugiarto</i>	
BATTLEBOT : LOGIC LEARNING BASED ON VISUAL PROGRAMMING IMPLEMENTATION IN MULTIPLAYER GAME ONLINE.....	138
<i>Bimaswara Adam Noval ; Mohamad Safrodin ; Rizky Yuniar Hakkun</i>	
3D VISUALIZATION AND RECONSTRUCTION OF LUNG CANCER IMAGES USING MARCHING CUBES ALGORITHM	143
<i>Khairani Arlinda Mandaliana ; Tri Harsono ; Riyanto Sigit</i>	
ACOUSTIC NOISE MAPPING ON VARIOUS LOCATION IN SURABAYA	148
<i>Olivia Putri Rosmala ; Tri Budi Santoso ; Miftahul Huda</i>	
APPLICATION OF LAGRANGE METHOD TO ANALYZE FORCES OF GYROSCOPE INVERTED PENDULUM.....	154
<i>Yayang Permadi ; Adytia Darmawan ; Endra Pitowarno</i>	
IDENTIFICATION AND PROTECTION OF SERIES DC ARC FAULT FOR PHOTOVOLTAIC SYSTEMS BASED ON FAST FOURIER TRANSFORM.....	159
<i>M. Iqbal Fitrianto ; Endro Wahjono ; Dimas Okky Anggriawan ; Eka Prasetyono ; Rauf Hanrif Mubarak ; Anang Tjahjono</i>	
REAL TIME VOLTAGE FLICKER DETECTION BASED ON FAST FOURIER TRANSFORM	164
<i>Denda Zakaria ; Epyk Sunarno ; Dimas Okky Anggriawan ; Welly Putra Ganda</i>	
IMPLEMENTATION OF REALTIME DATABASE FOR IOT HOME AUTOMATION AND ENERGY MONITORING APPS BASED ON ANDROID.....	170
<i>Enggar Swahadika ; Adnan Rachmat Anom Besari ; Iwan Kurnianto Wibowo</i>	
AUTOMATIC SEGMENTATION OF HEART CAVITY IN ECHOCARDIOGRAPHY IMAGES: TWO & FOUR-CHAMBER VIEW USING ITERATIVE PROCESS METHOD	177
<i>Anwar Anwar ; Riyanto Sigit ; Achmad Basuki ; I Putu Adi Surya Gunawan</i>	
HEALTH MONITORING AND EARLY DISEASES DETECTION ON DAIRY COW BASED ON INTERNET OF THINGS AND INTELLIGENT SYSTEM.....	183
<i>Faruq ; Iwan Syarif ; Ahmad Syauqi Ahsan ; M. Udin Harun Al Rasyid ; Yogi Putra Pratama</i>	
SMART HOME SYSTEM FOR FIRE DETECTION MONITORING BASED ON WIRELESS SENSOR NETWORK.....	189
<i>M. Udin Harun Al Rasyid ; Depandi Enda ; Ferry Astika Saputra</i>	
MOTION MODELING OF TRADITIONAL JAVANESE DANCE: INTRODUCTION OF JAVANESE DANCER GESTURE WITH 3D MODELS	195
<i>Artiarini Nurindiyani ; Dadet Pramadihanto ; Rosyidina Afifah</i>	
DEVELOPMENT OF ANIMATIC COMIC WEBSITE: THE LIFESTORY OF PANGERAN DIPONEGORO	202
<i>Abdi Prasetyo ; Dwi Susanto ; Hestiasari Rante</i>	
BACKEND SERVER SYSTEM DESIGN BASED ON REST API FOR CASHLESS PAYMENT SYSTEM ON RETAIL COMMUNITY	208
<i>Bob Maulana Adam ; Adnan Rachmat Anom Besari ; Mochamad Mober Bachtiar</i>	
DESIGN AN MVC MODEL USING PYTHON FOR FLASK FRAMEWORK DEVELOPMENT.....	214
<i>Mohammad Robihul Mufid ; Arif Basofi ; M. Udin Harun Al Rasyid ; Indhi Farhandika Rochimansyah ; Abdul Rokhim</i>	
PARTICIPATORY DESIGN WITH CHILDREN IN DESIGNING A SMARTPHONE HOLDER.....	220
<i>Armita Dewi Cahyanti ; Hestiasari Rante ; Achmad Basuki</i>	
CLASSIFICATION ON CATEGORY OF PUBLIC RESPONSES ON TELEVISION PROGRAM USING NAIVE BAYES METHOD	225
<i>Devira Dwimarcayani ; Tessy Badriyah ; Tita Karlita</i>	

A DIALECTIC APPROACH IN MONTAGE MOVIE	232
<i>Affiatul Azizah ; Hestiasari Rante ; Dwi Susanto</i>	
RESEARCH STUDY OF OCCUPANCY GRID MAP MAPPING METHOD ON HECTOR SLAM TECHNIQUE	238
<i>Syahrul Fajar Andriawan Eka Wijaya ; Didik Setyo Purnomo ; Eko Budi Utomo ; Muhammad Akbaryan Anandito</i>	
2DOFS TELEOPERATION WEARABLE ROBOTS FOR POST STROKE REHABILITATION	242
<i>Firzatullah Dwiko Ramadhan ; Endah Suryawati Ningrum ; Nofria Hanafi ; Eny Kusumawati</i>	
NUMERICAL INVESTIGATION OF AIRFLOW IN A TRAPEZOIDAL SOLAR AIR HEATER CHANNEL	248
<i>Lohdy Diana ; Arrad Ghani Safitra ; Gilang Muhammad</i>	
HOG-BASED HAND GESTURE RECOGNITION USING KINECT	254
<i>Kevin Nathanael Krisandria ; Bima Sena Bayu Dewantara ; Dadet Pramadihanto</i>	
IMPLEMENTATION OF CANNY EDGE DETECTION FOR IDENTIFICATION OF INDONESIAN AND MEDINA USMANI KHAT USING BACKPROPAGATION	260
<i>Dimas Fanny Hebrasianto Permadi ; Muhamad Abdul Karim</i>	
HUMAN BODY'S ORIENTATION ESTIMATION BASED ON DEPTH IMAGE	266
<i>Rizka Wahyu Aditiya Saputra ; Bima Sena Bayu Dewantara ; Dadet Pramadihanto</i>	
PROTOTYPE DESIGN OF AUTOMATIC DEEP-FRIER FOR PASTEL USING FUZZY LOGIC METHOD	272
<i>Desire Kurnia Salim ; Ali Husein Alasiry ; Eru Puspita</i>	
THE DEVELOPMENT OF DIGITAL BOARD GAME TO INTRODUCE INDONESIAN WILDLIFE USING AR TECHNOLOGY AND NFC	277
<i>Mohamad Saifrodin ; Fahim Nur Cahya Bagar ; Fidelis Yoga Pralista</i>	
NUMERICAL STUDY ON HEAT TRANSFER AND FRICTION FACTOR CHARACTERISTICS OF TRANSITION FLOW IN SHELL AND TUBE HEAT EXCHANGER	283
<i>Rif'Ah Amalia ; Arrad Ghani Safitra ; Hakimatul Ubudiyah</i>	
DESIGN AND IMPLEMENTATION OF VARIOUS PAYMENT SYSTEM FOR PRODUCT TRANSACTION IN MOBILE APPLICATION	287
<i>Dewi Sandy Islamiati ; Dias Agata ; Adnan Rahmat Anom Besari</i>	
CUMULATIVE SCORES BASED FOR REAL-TIME MUSIC BEAT DETECTION SYSTEM	293
<i>Fikana Mahardika Cantri ; Zaqiatud Darojah ; Endah Suryawati Ningrum</i>	
ANDROID APPLICATION DESIGN AS GROUND CONTROL STATION (GCS) AND WAYPOINT NAVIGATION IN UNMANNED AERIAL VEHICLE (UAV)	299
<i>Mochamad Moberd Bachtiar ; Fernando Ardilla ; Abdi Alghifara Felinanda</i>	
A NEW METHOD TO PUBLISH SPATIAL SECTORAL DATA AND SPATIAL PLANNING IN LOCAL GOVERNMENT TO SUPPORT ONE MAP POLICY (CASE STUDY : EAST JAVA)	307
<i>Ferry Astika Saputra ; Seria Reni Dwi Astiwi ; Arna Fariza</i>	
LSTM WITH ADAM OPTIMIZATION-POWERED HIGH ACCURACY PREECLAMPSIA CLASSIFICATION	314
<i>Nur Sakinah ; Muhlis Tahir ; Tessy Badriyah ; Iwan Syarif</i>	
AN ANALYTICAL RELATIONSHIP RETRIEVAL SCENARIO WITH TEMPORAL INFORMATION DATA APPROACHING TO PLASTIC WASTE-LEAKS INTO MARINE ENVIRONMENTS	320
<i>Chalisa Veesommai ; Yasushi Kiyoki</i>	
BALL DETECTION UNDER VARIETY LIGHTING USING OMNIDIRECTIONAL CAMERA	325
<i>Satria Rachmad Santosa ; Bima Sena Bayu Dewantara ; Iwan Kurnianto Wibowo</i>	
A NEW DIGITAL APPLICATION APPROACH OF GARBAGE TRANSACTION FOR SUROBOYO BUS	331
<i>Nindy Ilhami ; Arna Fariza ; Rengga Asmara</i>	
FAST MULTI-SCALE HOMOMORPHIC QUOTIENT FILTERING FOR NIGHT TIME LICENSE PLATES ILLUMINATION INVARIANT AND DENOISING	337
<i>Igi Ardiyanto ; Muhammad Rizky Munggaran ; Indra Nugraha ; Martin Dominikus Tjandra ; Randy Pangestu Kuswana</i>	
A PROPOSE OF PID STABILITY CONTROL IN A GYRO-DISC ACTUATOR SYSTEM	341
<i>Rachmad Kusumardana ; Endra Pitowarno ; Adytia Darmawan ; Eny Kusumawati</i>	
CLASS ACTIVATION MAPPING-BASED CAR SALIENCY REGION AND DETECTION FOR IN-VEHICLE SURVEILLANCE	349
<i>Irfan Dwiki Bhaswara ; A. Fatan D. Marsiano ; Okta Fajar Suryani ; Teguh Bharata Adji ; Igi Ardiyanto</i>	
ESTIMATED VEHICLE FUEL CALCULATION BASED ON GOOGLE MAP REALTIME DISTANCE	354
<i>Mohammad Robihul Mufid ; Arif Basofi ; Iwan Syarif ; Fahrul Sanjaya ; Wajib</i>	

MULTISTAGE WIND TURBINE CAPABILITY TO THE ROTOR AXIAL DISTANCE CHANGES	359
<i>Setyo Nugroho ; Lohdy Diana ; Devi Purnama Ariyanti</i>	
BODY BALANCING CONTROL FOR EILERO QUADRUPED ROBOT WHILE WALKING ON SLOPE	364
<i>Zikri Nasution ; Andre Faqih Ilham Suparman ; Giffar Aji Prasetyo ; Ali Husein Alasiry ; Eko Henfri Binugroho ; Adytia Darmawan</i>	
FEATURE EXTRACTION OF TOMATO GROWTH MODEL USING GREENHOUSE MONITORING SYSTEM	370
<i>Luthfi Aminulloh ; Wahjoe Tjatur Sesulihatien ; Dadet Pramadihanto</i>	
DEVELOPMENT OF THE GAIT PLANNING FOR STABILITY MOVEMENT ON QUADRUPED ROBOT	376
<i>Giffar Aji Prasetyo ; Andre Faqih Ilham Suparman ; Zikri Nasution ; Eko Henfri Binugroho ; Adytia Darmawan</i>	
MOBILE ROBOT POSITION CONTROL USING COMPUTER VISION	382
<i>Ridha Nurlaili ; Indra Adji Sulistijono ; Anhar Risnumawan</i>	
ARTIFICIAL NEURAL NETWORK THROUGH ENERGY VALUE OF EMPIRICAL MODE DECOMPOSITION FEATURE EXTRACTION BASED: APPLICATION ON BEARING FAULT DIAGNOSIS	387
<i>Bima Priambodo Wahyu Rianto ; Endah Suryawati Ningrum ; Zaqiatud Darojah ; Hendhi Hermawan</i>	
TELEOPERATION ROBOT ARM USING DEPTH SENSOR	394
<i>Muhammad Syakir ; Endah Suryawati Ningrum ; Indra Adji Sulistijono</i>	
IMPLEMENTATION OF MOTION CAPTURE SYSTEM FOR SWIMMER ATHLETE MONITORING	400
<i>Muhammad Aksa Hidayat Yani ; Sandi Bayu Aji ; Ika Fadhillah Ariyanti ; Sritrusta Sukaridhoto ; Muhammad Agus Zainuddin ; Achmad Basuki</i>	
WEB EXPLAINER FOR CHILDREN'S EDUCATION WITH IMAGE RECOGNITION BASED ON DEEP LEARNING	406
<i>Moch. Fahmi Risal ; Sritrusta Sukaridhoto ; Hestiasari Rante</i>	
IMPLEMENTATION OF K-NN FINGERPRINT METHOD ON RECEIVING SERVER FOR INDOOR MOBILE OBJECT TRACKING	411
<i>Gegap Putri Gempita ; Diyanti Wilasari ; Prima Kristalina ; Sritrusta Sukaridhoto</i>	
CIRCLE HOUGH TRANSFORM ON REAL-TIME OBJECT FOLLOWING UNMANNED SURFACE VESSEL	416
<i>Achmad Ghazy Tajuddin ; Novian Fajar Satria ; Eko Budi Utomo</i>	
SHORT CIRCUIT CURRENT BASED ANN MPPT FOR BATTERY CHARGING	422
<i>Achmad Hidayat ; Ayatullah Bela Muhammad ; Novie Ayub Windarko ; Moh. Zaenal Efendi</i>	
JAYA-NEURAL NETWORK FOR SERVER ROOM TEMPERATURE FORECASTING THROUGH SENSOR NETWORK	428
<i>Novendra Setyawan ; Muhammad Nasar ; Nuralif Mardiyah</i>	
KNOWLEDGE BASED CHATBOT WITH CONTEXT RECOGNITION	432
<i>Rico Arisandy Wijaya ; Entin Martiana Kusumaningtyas ; Aliridho Barakbah</i>	
SMART DETECTION OF AC SERIES ARC FAULT ON HOME VOLTAGE LINE BASED ON FAST FOURIER TRANSFORM AND ARTIFICIAL NEURAL NETWORK	439
<i>Muhammad Alwi Abdulrachman ; Eka Prasetyono ; Dimas Okky Angriawan ; Anang Tjahjono</i>	
AN IMPLEMENTATION OF SHARED SYMMETRIC KEY GENERATION EXTRACTED FROM RECEIVED SIGNAL STRENGTH IN VEHICLE TO INFRASTRUCTURE COMMUNICATION	446
<i>Amang Sudarsono ; Mike Yuliana ; Prima Kristalina ; Reni Soelistijorini ; Adib Muhammad Visoka</i>	
POSE ESTIMATION ON SOCCER ROBOT USING DATA FUSION FROM ENCODERS, INERTIAL SENSOR, AND IMAGE DATA	454
<i>Zanuar Tri Romadon ; Hary Oktavianto ; Iwan Kurnianto Wibowo ; Bima Sena Bayu Dewantara ; Erna Alfi Nurrohmah ; Renardi Adryantoro Priambudi</i>	
IMAGE AND VIDEO TRANSMISSION IN NANONETWORKS	460
<i>Muhammad Agus Zainuddin</i>	
HARDWARE ARCHITECTURE FOR ROBOT SOCCER ERSOW USING CONTROL AREA NETWORK BUS	464
<i>Darmaji Darmaji ; Iwan Kurnianto Wibowo ; Fernando Ardilla ; Dliyauddin Ibadurrohman</i>	
SLIDING MODE CONTROL FOR OFF GRID NEUTRAL POINT CLAMPED MULTILEVEL INVERTER	468
<i>Mochamad Ari Bagus Nugroho ; Atho' Ullah ; Bambang Sumantri ; Novie Ayub Windarko</i>	
COMPARISON OF VIDEO IPTV AND DIGITAL TV DVB-T2 QUALITY FOR INDONESIA TV BROADCAST	474
<i>Burhanudin Abu Sujak ; Citra Devi Murdaningtyas ; Martianda Erste Anggraeni ; Sritrusta Sukaridhoto</i>	

BER PERFORMANCE OF JOINT PTS PAPR REDUCTION TECHNIQUE AND WIENER HPA PREDISTORTION IN OFDM SYSTEM	480
<i>Yoedy Moegiharto ; Aliva Meidya Kautsar Bebyrahma ; Ida Anisah</i>	
MUSIC SIGNALS BEAT TRACKING BASED ON BIDIRECTIONAL LONG-SHORT TERM MEMORY	485
<i>Choirin Nisa Ramadhani ; Endah Suryawati Ningrum ; Zaqiatud Darojah</i>	
PRONUNCIATION ERROR DETECTION IN VOICE INPUT FOR CORRECT WORD SUGGESTION	490
<i>Kohei Kamimura ; Kosuke Takano</i>	
DESIGN OF DIGITAL PARENTING DEVICE BASED ON MULTIPLE INTELLIGENCE TO DEVELOP CHILD'S POTENTIAL	494
<i>Nur Muhammad Ilham ; Heny Yuniarti ; Adnan Rachmat Anom Besari</i>	
TOWARDS AN AUTOMATIC AIRCRAFT WRECKAGE DETECTION USING A MONOCULAR CAMERA OF UAV	501
<i>Anhar Risnumawan ; Muhammad Ilham Perdana ; Alif Habib Hidayatulloh ; A. Khoirul Rizal ; Indra Adji Sulistijono</i>	
DESIGNING PUBLIC INFORMATION DISPLAY SYSTEM (PIDS) AS INFORMATION MEDIA ON RAILWAY TRANSPORTATION	505
<i>Muhamad Syaiful Hidayat ; Tri Harsono ; Iwan Kurnianto Wibowo</i>	
PERFORMANCE EVALUATION OF DVB-T2 TV BROADCAST FOR FIXED RECEPTION	510
<i>Lila Julianawati ; Qurrota A'Yun ; Martianda Erste Anggraeni ; Rosiyah Faradisa</i>	
COMPUTER VISION SYSTEM BASED FOR PERSONAL PROTECTIVE EQUIPMENT DETECTION, BY USING CONVOLUTIONAL NEURAL NETWORK	516
<i>Faishal Zhafran ; Endah Suryawati Ningrum ; Mohamad Nasyir Tamara ; Eny Kusumawati</i>	
DETECTION OF HEART CONDITION BASED ON ECHOCARDIOGRAPHY IMAGE USING ULTRASOUND	522
<i>Cicik Nofindarwati ; Riyanto Sigit ; Tri Harsono</i>	
DESIGNING OF A SMART COLLAR FOR DAIRY COW BEHAVIOR MONITORING WITH APPLICATION MONITORING IN MICROSERVICES AND INTERNET OF THINGS-BASED SYSTEMS	527
<i>Yogi Putra Pratama ; Dwi Kurnia Basuki ; Sritrusta Sukaridhoto ; Alviansyah Arman Yusuf ; Heri Yulianus ; Faruq Faruq ; Fariz Bramasta Putra</i>	
HUMAN DETECTION AND TRACKING ON SURVEILLANCE VIDEO FOOTAGE USING CONVOLUTIONAL NEURAL NETWORKS	534
<i>Dima Maharika Dinama ; Qurrota A'Yun ; Achmad Dahlan Syahroni ; Indra Adji Sulistijono ; Anhar Risnumawan</i>	
ARMCHAIN - A BLOCKCHAIN BASED SENSOR DATA COMMUNICATION FOR THE VEHICLE AS A MOBILE SENSOR NETWORK	539
<i>Alviansyah Arman Yusuf ; Dwi Kurnia Basuki ; Sritrusta Sukaridhoto ; Yogi Putra Pratama ; Fariz Bramasta Putra ; Heri Yulianus</i>	
FORECAST RAINFALL DATA TIME SERIES USING MULTI-ATTRIBUTE LONG SHORT-TERM MEMORY	544
<i>Rafidah Atika ; Arna Fariza ; Ali Ridho Barakbah</i>	
VISION-BASED HEART AND BREATH RATE MONITORING USING SKIN COLOR AND MOTION	550
<i>Muhammad Nasrullah ; Anhar Risnumawan ; Indra Adji Sulistijono</i>	
VENDING MACHINE MONITORING SYSTEM INTEGRATED WITH WEBSERVER	556
<i>Mohamad Walid Asyhari ; Riyanto Sigit ; Sritrusta Sukaridhoto</i>	
DEFINING NETWORK SWITCH PREFERENCE BY NETWORK TRAFFIC USING STABLE MARRIAGE PROBLEM	560
<i>Akhmad Alimudin ; Idris Winarno ; Yoshiteru Ishida</i>	
CONTROL HEADING ON THREE WHEEL ELECTRIC VEHICLES USING FUZZY LOGIC FOR E-CAK	564
<i>Siti Aminah ; Bagas Mahardika ; Nofria Hanafi ; Raden Sanggar Dewanto ; Dadet Pramadihanto</i>	
DEVELOPMENT OF WEB BASED APPLICATION WITH SPEECH RECOGNITION AS ENGLISH LEARNING CONVERSATION TRAINING MEDIA	571
<i>Aliv Faizal Muhammad ; Dio Ekky Pratama ; Akhmad Alimudin</i>	
DEVELOPMENT OF AUTOMATED WEATHER OBSERVING SYSTEM BASED ON REALTIME WEB DISPLAY	577
<i>Widada Sulistya ; Hanif Andi Nugraha ; G. S Budhi Dharmawan ; Maulana Putra ; Ahmad Furqon ; Sugiarto Sugiarto ; Anggie Patria Pramagusta</i>	
OPTIMIZATION ESTIMATING 3D OBJECT POSE USING LEVENBERG-MARQUARDT METHOD	582
<i>Dewi Mutiara Sari ; Vina Wahyuni Eka Putranti</i>	

DEVELOPMENT OF CONVERSATION APPLICATION AS ENGLISH LEARNING USING WEBRTC	589
<i>Alexander Ryan Pandusadewa ; Akhmad Alimudin ; Aliv Faizal M.</i>	
PERFORMANCE ANALYSIS OF HELICAL SAVONIUS RIVER CURRENT TURBINE USING COMPUTATIONAL FLUID DYNAMIC	595
<i>Mafira Ayu Ramdhani ; Setyo Nugroho ; Lohdy Diana</i>	
VENTURINI MODULATION METHOD FOR MATRIX CONVERTER	601
<i>Era Purwanto ; Farid Dwi Murdianto ; Gamar Basuki</i>	
AGE ESTIMATION SYSTEM USING DEEP RESIDUAL NETWORK CLASSIFICATION METHOD	607
<i>Arna Fariza ; Mu'Arifin ; Agus Zainal Arifin</i>	
A MOVING HUMAN DETECTION AND TRACKING USING COMBINATION OF HOG AND COLOR HISTOGRAM	612
<i>Achmad Ilham Imanuddin ; Prima Kristalina ; Bima Sena Bayu Dewantara</i>	
DETECTING HANG ON THE VIRTUAL MACHINE USING LIBVMI	618
<i>Agus Priyo Utomo ; Idris Winarno ; Iwan Syarif</i>	
CREATIVE MEDIA FOR CYBERBULLYING EDUCATION	622
<i>Syarifah Qonitatulhaq ; Novita Astin ; Widi Sarinastiti</i>	
STATIC AND DYNAMIC ANALYSIS OF EROV MECHANICAL DESIGN USING CFD	628
<i>Eko Henfri Binugroho ; Beni Setyawan ; Wafiqqurochman ; Raden Sanggar Dewanto ; Dadet Pramadihanto</i>	
DESIGN AND SIMULATION MPPT ON PHOTOVOLTAIC USING LOCUST SWARM ALGORITHM	633
<i>M. Rizky ; Epyk Sunarno ; Eka Prasetyono</i>	
EROV: DEPTH AND BALANCE CONTROL FOR ROV MOTION USING FUZZY PID METHOD	637
<i>Eko Henfri Binugroho ; Wafiqqurochman ; Muhammad Irfan Mas'Udi ; Beni Setyawan ; Raden Sanggar Dewanto ; Dadet Pramadihanto</i>	
DESIGN AND FABRICATION OF A RADIAL FLUX PERMANENT MAGNET SYNCHRONOUS GENERATOR	644
<i>Moh. Rifqi Faqih ; Sutedjo Sutedjo ; Endro Wahjono</i>	
A STUDY FOR ESTIMATION OF BIO ORGANISM CONTENT IN AQUACULTURE POND BASED ON IMAGE COLOR AND LIGHT INTENSITY	650
<i>Agus Indra Gunawan ; Ariesa Editya Pratama ; Bima Sena Bayu Dewantara ; Indah Puspitasari ; Tri Ari Setyastuti</i>	
REPRESENTATIVE NEWS GENERATION USING AUTOMATIC CLUSTERING IN BIG DATA ENVIRONMENT	655
<i>Muhammad Alfian ; Ali Ridho Barakbah ; Muhammad Febrian Ardiansyah</i>	
BRAIN TUMOR CLASSIFICATION USING MRI IMAGES WITH K-NEAREST NEIGHBOR METHOD	660
<i>Rafi Haidar Ramdlon ; Entin Martiana Kusumaningtyas ; Tita Karlita</i>	
SMART ENVIRONMENT: ACCURACY OF A SERVER SIDE MODEL IN DESIGN TOPOLOGY WSN AND IOT	668
<i>Ekoprayitno ; Nurul Fahmi ; M. Udin Harun Al Rasyid ; Amang Sudarsono</i>	
POTHOLE VISUAL DETECTION USING MACHINE LEARNING METHOD INTEGRATED WITH INTERNET OF THING VIDEO STREAMING PLATFORM.....	672
<i>Alfandino Rasyid ; Mochammad Rifki Ulil Albaab ; Muhammad Fajrul Falah ; Yohanes Yohanie Fridelin Panduman ; Alviansyah Arman Yusuf ; Dwi Kurnia Basuki ; Anang Tjahjono ; Rizqi Putri Nourma Budiarti ; Srirusta Sukaridhoto ; Firman Yudianto ; Hendro Wicaksono</i>	
IMPLEMENTATION QR CODE BIOMETRIC AUTHENTICATION FOR ONLINE PAYMENT.....	676
<i>Agostinho Marques Ximenes ; Srirusta Sukaridhoto ; Amang Sudarsono ; Mochammad Rifki Ulil Albaab ; Hasan Basri ; Muhammad Aksa Hidayat Yani ; Chew Chang Choon ; Ezharul Islam</i>	
Author Index	