

# **2018 International Conference on Design Innovations for 3Cs Compute Communicate Control (ICDI3C 2018)**

**Bangalore, India  
25-28 April 2018**



**IEEE Catalog Number: CFP18R09-POD  
ISBN: 978-1-5386-7524-3**

**Copyright © 2018 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:	CFP18R09-POD
ISBN (Print-On-Demand):	978-1-5386-7524-3
ISBN (Online):	978-1-5386-7523-6

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

# 2018 International Conference on Design Innovations for 3Cs Compute Communicate Control **ICDI3C 2018**

## Table of Contents

<b>Founder Dr. M V Jayaraman</b>	<b>ix</b>
<b>Principal's Message</b>	<b>x</b>
<b>Vice Principal's Message</b>	<b>xi</b>
<b>Keynotes</b>	<b>xii</b>
<b>Organizing Committee</b>	<b>xviii</b>

## ICDI3C 2018

Design and Optimization of Spiral Cladding Photonic Crystal Fiber Based Sensor for Gas Sensing Applications .1	
<i>Revathi S (School of Electronics and Engineering, Vellore Institute of Technology, Vellore), Balachander S (School of Electronics and Engineering, Vellore Institute of Technology, Vellore), Swarnima Srivastava (School of Electronics and Engineering, Vellore Institute of Technology, Vellore.), and Kumarajeeva E (School of Electronics and Engineering, Vellore Institute of Technology, Vellore)</i>	
Tree Crown Detection and Extraction from High Resolution Satellite Images in an Urban Area .8	
<i>Bhavana B L (PG Scholar, Electronics and instrumentation Engineering Dr. Ambedkar Institute of Technology Bengaluru-56, India), Sridevi N (Associate Prof, Electronics and instrumentation Engineering Dr. Ambedkar Institute of Technology Bengaluru-56, India), and Dr. Ramachandrea Hebbar (Scientist, RRSC- South, DRDO Bangalore- 56, India)</i>	
Evaluation of GPS Data for Navigational Solution and Error Reduction Using Kalman Filter .12	
<i>Vani N M (MVJCE, Bengaluru-67) and Sheher Banu (MVJCE, Bengaluru-67)</i>	
Analysis of INS Parameters and Error Reduction by Integrating GPS and INS Signals .18	
<i>Deepika M G (MVJ College of Engineering) and Arun A (MVJCE, Bengaluru-67)</i>	

Early Diagnosis and Automated Analysis of Myocardial Infarction (STEMI) by Detection of ST Segment Elevation Using Wavelet Transform and Feature Extraction .24.....	<i>Anirudha V Bharadwaj (Department of Electronics and Communication Engineering Ramaiah Institute of Technology, Bangalore - 560054), Sripad M Upadhyaya (Department of Electronics and Communication Engineering Ramaiah Institute of Technology, Bangalore - 560054), Sharath L (Department of Electronics and Communication Engineering Ramaiah Institute of Technology, Bangalore - 560054), and Dr. Raghuram Srinivasan (Associate Professor, Department of Electronics and Communication Engineering Ramaiah Institute of Technology, Bangalore - 560054)</i>
Sensor Data Fusion Using Kalman Filter .29.....	<i>Athira Chandra Babu (M.TECH AVIONICS (2018)), Ravi Kumar Karri (Scientist Level 'E', DARE,BENGALURU), and Nisha M S (ASSISTANT PROFESSOR, SCHOOL OF AERONAUTICAL SCIENCES, HINDUSTAN UNIVERSITY)</i>
Soldier Security and Health Monitoring .37.....	<i>Thanga Dharsni (MVJCE, BANGALORE-67), Hanifa Zakir (MVJCE, BANGALORE-67), Pradeep Naik (MVJCE, BANGALORE-67), Mallikarjuna Mallikarjuna (MVJCE, BANGALORE-67), and Raghu M (MVJCE, BANGALORE-67)</i>
Plant Disease Detection Using Machine Learning .41.....	<i>Shima Ramesh Maniyath (MVJCE, Bengaluru-67), Vinod P V (ISRO, RRSC-S, Bengaluru), Niveditha M (MVJCE, Bengaluru-67), Pooja R (MVJCE, Bengaluru-67), Prasad Bhat N (MVJCE, Bengaluru-67), Shashank N (MVJCE, Bengaluru-67), and Ramachandra Hebbar (ISRO, RRSC-S, Bengaluru)</i>
Surveillance Robot Using Raspberry Pi and IoT .46.....	<i>Harshitha R (Assistatant Professor, MVJCE, BANGALORE-67) and Muhammad Hameem Safwat Hussain (MVJCE, BANGALORE-67)</i>
Soil Color Detection Using Knn Classifier .52.....	<i>Shima Ramesh Maniyath (MVJCE, BANGALORE-67), Ramachandra Hebbar (senior Scientist, ISRO, RRSC-S, BANGALORE-67), Akshatha K N (MVJCE, BANGALORE-67), Architha L S (MVJCE, BANGALORE-67), and Rama Subramoniam S (Scientist RRSC-South ,ISRO Bengaluru-560056,India)</i>
AgRobots (A Combination of Image Processing and Data Analytics for Precision Pesticide Use) .56.....	<i>Kala H S (MVJCE, Bengaluru-67), Anjali singh s (MVJCE, BANGALORE-67), Amrutha R (MVJCE, BANGALORE-67), Amith R Patil (MVJCE, BANGALORE-67), Deepak Kamble (MVJCE, BANGALORE-67), Vinod P V (Scientist, ISRO, RRSC-S, BANGALORE), and Ramachandra Hebbar (Senior Scientist, ISRO, RRSC-S, BANGALORE)</i>
CNN Based Technique for Systematic Classification of Field Photographs .59.....	<i>Kavitha D (Associate Professor, Department of ECE MVJ College of Engineering, Bangalore, Karnataka, India), Ramachandra Hebbar (Senior Scientist RRSC-South ,ISRO Bengaluru-560056,India), Vinod P V (Scientist, ISRO, RRSC-S, BANGALORE-67), Harsheetha M P (MVJCE, BANGALORE-67), Jyothi L (MVJCE, BANGALORE-67), and Madhu S H (MVJCE, BANGALORE-67)</i>
Design of an Autonomous Surveillance Robot Using Simultaneous Localization and Mapping .64.....	<i>I Hameem Shanavas (MVJCE, Bengaluru-67), Syed Aatif Ahmed (MVJCE, Bengaluru-67), and Muhammad Hameem Safwat Hussain (MVJCE, Bengaluru-67)</i>

Multipurpose Self Fuel Dispensing Automated Framework Utilizing RFID Prepaid Cards .69.....	
<i>Thangadharsni. I (MVJ College of Engineering), Deepa D (MVJCE, Bengaluru-67), Deepashree B (MVJCE, Bengaluru-67), Deepu N (MVJCE, Bengaluru-67), and Divya R P (MVJCE, Bengaluru-67)</i>	
Geometric Location Finder Based on Encrypted Spatial Data Using Geometric Range Queries .75.....	
<i>Venus Bron Lima (MVJCE, Bengaluru-67) and Shima Ramesh Maniyath (MVJCE, Bengaluru-67)</i>	
Voice Controlled Robot Using Labview .80.....	
<i>Shwetha Patil (MVJCE, BANGALORE-67), Abhigna Abhigna (MVJCE, BANGALORE-67), Arpitha - (MVJCE, BANGALORE-67), Deepthi . (MVJCE, BANGALORE-67), and Priyanka . (MVJCE, BANGALORE-67)</i>	
Design and Construction of Six Legged Robot .84.....	
<i>Bhanuteja G (MVJCE, Bengaluru-67), Vijetranayaka Mudkavi (MVJCE, Bengaluru-67), Goutham Sharma (MVJCE, Bengaluru-67), Babuvijayendra kumar (MVJCE, Bengaluru-67), and Madan kumar E Nidagundi (MVJCE, Bengaluru-67)</i>	
Exact Rate Control of Electric Vehicle Using ARM with Battery Saving Mode .88.....	
<i>Praphul M N (MVJCE, Bengaluru-67), Bhargabi Maity (MVJCE, Bengaluru-67), Bindhu V (MVJCE, Bengaluru-67), Nivedita Chalamchala Sai Ramani (MVJCE, Bengaluru), and Divya M (MVJCE, bengaluru-67)</i>	
Design and Development of Automated Intelligent Robot Using OpenCV .92.....	
<i>Jeeva B (Assistant Professor, Department of ECE, M.V.J College of Engineering, Bangalore-67, India), Sanjay V (Department of ECE, M.V.J College of Engineering, Bangalore-67, India), Vikram Purohit (Department of ECE, M.V.J College of Engineering, Bangalore-67, India), Derryl Oswald Tauro (Department of ECE, M.V.J College of Engineering, Bangalore-67, India), and Vinay J (Department of ECE, M.V.J College of Engineering, Bangalore-67, India)</i>	
Development of Device for Gesture to Speech Conversion for the Mute Community .97.....	
<i>Kala H S (MVJCE, Bengaluru-67), Sushith Rai S (MVJCE, Bengaluru-67), Sushmita Pal (MVJCE, Bengaluru-67), Uzma Sulthana K (MVJCE, Bengaluru-67), and Sudarshana Chakma (MVJCE, Bengaluru-67)</i>	
GPS Based Autonomous Agricultural Robot .100.....	
<i>Kareemulla Shaik (Assistant Professor, Electronics And Communication MVJ College Of Engineering Bangalore, India), Edwin Prajwal (MVJCE, BANGALORE-67), Sujeshkumar B (MVJCE, BANGALORE-67), Mahesh Bonu (MVJCE, BANGALORE-67), and Vamseedhar Reddy Balapanuri (MVJCE, BANGALORE-67)</i>	
Buildings Detection from Very High Resolution Satellite Images Using Segmentation and Morphological Operations .106.....	
<i>Roopa E (4thsem M.Tech in Electronics Electronics and Instrumentation engg. Dr.Ambedkar Institute of Technology Bengaluru-560056, India.), Shubha. P (Assistant professor Electronics and Instrumentation engg. Dr.Ambedkar Institute of Technology Bengaluru-560056, India.), and Ramachandra Hebbar (Scientist RRSC-South, ISRO Bengaluru-560056, India)</i>	
CM-AODV: An Efficient Usage of Network Bandwidth in AODV Protocol .111.....	
<i>Ashwini H.K (MVJCE, Bangalore-67), Vyshali Rao K.P (MVJCE, Bangalore-67), and Ishwari Ginimav (MVJCE, Bangalore-67)</i>	

Highly Secure Multiple Account Bank Affinity Card-A Successor for ATM Card .115.....	
<i>Farha Kouser (MVJCE, BANGALORE-67), Nagaratna . (MVJCE, Bengaluru-67), Pavithra V R (MVJCE, Bengaluru-67), Bhavya Sree (MVJCE, Bengaluru-67), and Ravi kiran (MVJCE, Bengaluru-67)</i>	
Autonomous Self-Parking Robot .120.....	
<i>Pavithra P (MVJCE, BANGALORE-67), Apoorva J Shet (MVJCE, BANGALORE-67), Avinash killikyatar (MVJCE, BANGALORE-67), Ankit kumar (MVJCE, BANGALORE-67), and Fedricky Banskhembor Ropmay (MVJCE, Bengaluru-67)</i>	
Sweepy – The Smart Floor Cleaner .124.....	
<i>Varsha P H (MVJCE, Bengaluru-67), Lavanya V (MVJCE, Bengaluru-67), Sneha R (MVJCE, Bengaluru-67), Meghana K (MVJCE, Bengaluru -67), and Rohan P S (MVJCE, Bengaluru-67)</i>	
CNN Based Technique for Automatic Tree Counting Using Very High Resolution Data .127.....	
<i>Aparna P (MVJCE, Bengaluru-67), Harshita MP (MVJCE, BANGALORE-67), Harshitha Sounder (MVJCE, BANGALORE-67), Nandkishore K (MVJCE, BANGALORE-67), Vinod P V (Scientist, ISRO, RRSC-S, BANGALORE-67), and Ramachandra Hebbar (ISRO, Bengaluru)</i>	
Getting Information about the Neighbour Street Light Using WIFI Mesh Network .130.....	
<i>Chaitra S N (MVJCE, BANGALORE-67), Subham Singha (MVJCE, BANGALORE-67), Souvik Ghorai (MVJCE, BANGALORE-67), Nagesh V (MVJCE, BANGALORE-67), and Brandon Samuel (MVJCE, BANGALORE-67)</i>	
A Personal Assistant Robot Using Raspberry Pi .133.....	
<i>I Hameem Shanavas (MVJCE, Bengaluru-67), Parthasarathy B Reddy (MVJCE, Bengaluru-67), and Manoj C Doddegowda (MVJCE, Bengaluru-67)</i>	
Stability Analysis of Networked Control System .137.....	
<i>M. Brindha (Research Scholar, of Electrical Engineering, RVCE, Bangalore, India, Associate Professor, MVJ College of Engineering, Bangalore, India), R. Jayapal (Professor and Head, Department , of Electrical Engineering, RVCE, Bangalore, India,), and Anala M R (Associate Professor, Department of Computer Science Engineering, RVCE, Bangalore, India.)</i>	
<b>Author Index 141. ....</b>	