

# **21st Communications & Networking Symposium (CNS 2018)**

2018 Spring Simulation Multi-Conference (SpringSim'18)

Simulation Series Volume 50 Number 3

Baltimore, Maryland, USA  
15 – 18 April 2018

## **Editors:**

**Abdolreza Abhari**  
**Hala ElAarag**

ISBN: 978-1-5108-6015-5

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571  
[www.proceedings.com](http://www.proceedings.com)



Some format issues inherent in the e-media version may also appear in this print version.

**© 2018 SIMULATION COUNCILS, INC.**

Responsibility for the accuracy of all statement in each paper rests solely with the author(s). Statements are not necessarily representative of, nor endorsed by, The Society for Modeling and Simulation International.

Printed by Curran Associates, Inc. (2018)

Permission is granted to photocopy portions of this publication for personal use and for the use of students provided credit is given to the conference and publication. Permission does not extend to other types of reproduction nor to copying for incorporation into commercial advertising nor for any other profit-making purpose. Other publications are encouraged to include 300- to 500-word abstracts or excerpts from any paper contained in this book, provided credits are given to the author and the conference. For permission to publish a complete paper write: The Society for Modeling and Simulation International (SCS), 2598 Fortune Way, Suite I, San Diego, CA 92081, USA.

**Additional copies of the Proceedings are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571  
[curran@proceedings.com](mailto:curran@proceedings.com)  
[www.proceedings.com/0128.html](http://www.proceedings.com/0128.html)

or

The Society for Modeling  
and Simulation International  
2598 Fortune Way, Ste I  
Vista, CA 92081 USA  
[www.scs.org](http://www.scs.org)

ISBN: 978-1-5108-6015-5  
PRINTED IN THE UNITED STATES

# TABLE OF CONTENTS

<b>SIMULTANEOUS LOCALIZATION AND MAPPING USING UAVS EQUIPPED WITH INEXPENSIVE SENSORS</b> .....	1
<i>O. Zheng, H. Aarag</i>	
<b>MUSICAL PREFERENCES PREDICTION BY CLASSIFICATION ALGORITHM</b> .....	11
<i>A. Barghi, A. Abharia, A. Ferdowsi</i>	
<b>ANALYZING THE EFFECT OF LTE-A TRANSMISSION PARAMETERS ON VIDEO STREAMING QUALITY OF EXPERIENCE</b> .....	23
<i>A. Al-Habashna, S. Fernandes, G. Wainer</i>	
<b>A SECURITY-AS-A-SERVICE SOLUTION FOR APPLICATIONS IN CLOUD COMPUTING ENVIRONMENT</b> .....	35
<i>W. Chen, B. Blainey, S. Sharieh</i>	
<b>MODELING AND SIMULATION OF FULLY AUTONOMOUS QUADROTORS</b> .....	44
<i>C. Micklisch, N. Hilliard, H. Aarag</i>	
<b>HANDOVER OSCILLATION REDUCTION IN ULTRA-DENSE HETEROGENEOUS CELLULAR NETWORKS USING ENHANCED HANDOVER APPROACH</b> .....	56
<i>B. Kazi, G. Wainer</i>	
<b>DATA MINING CLASSIFIERS COMPARISON FOR SEISMIC HAZARD PREDICTION</b> .....	68
<i>Sneha, A. Abhari, C. Ding</i>	
<b>IOT, SMART HOMES, AND ZIGBEE SIMULATION</b> .....	77
<i>H. Rajaei, F. Mirzaei</i>	
<b>PREDICTING INDOOR TEMPERATURE FROM SMART THERMOSTAT AND WEATHER FORECAST DATA</b> .....	87
<i>D. Yu, A. Fung, F. Mohammadi, K. Raahemifar, A. Abhari</i>	
<b>IMPROVING SUPPORT VECTOR MACHINE CLASSIFICATION ACCURACY BASED ON KERNEL PARAMETERS OPTIMIZATION</b> .....	99
<i>L. Mohammed, K. Raahemifar</i>	
<b>SIMULATING LINK AGGREGATION IN PRIVATE VIRTUAL LAN USING OPENFLOWFOR CLOUD ENVIRONMENT</b> .....	108
<i>D. Murtala, Y. Malik, P. Zavorsky</i>	
<b>SECURITY GAME FOR CYBER PHYSICAL SYSTEMS</b> .....	115
<i>K. Hasan, J. Sokolowski, S. Shetty, D. Tosh</i>	
<b>HURST PARAMETER AS A CORRELATION MEASURE FOR BRAIN SIGNAL</b> .....	127
<i>A. Ahmad, J. Holst</i>	
<b>Author Index</b>	