Final Program

18th IEEE/ACIS International Virtual Conference on Software Engineering, Management and Applications (SERA 2021)

June 21-22, 2021
Kanazawa, Japan

http://acisinternational.org/conferences/sera-2021/
## Conference Organizing Committee Members

**General Chair**  
Simon Xu, Algoma University, Canada

**Conference Chair**  
Osamu Mizuno, Kyoto Institute of Technology, Japan

**Program Co-Chairs**  
Sousuke Amasaki, Okayama Prefectural University, Japan  
Eunjong Choi, Kyoto Institute of Technology, Japan

**Publicity Chair:**  
Masanori Kondo, Kyushu University, Japan

**Finance Chair**  
Norihiro Yoshida, Nagoya University, Japan

**Local Arrangement Chair**  
Teruhisa Hochin, Kyoto Institute of Technology, Japan
Program at a Glance

Monday, June 21, 2021

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>10:30 – 11:30</td>
<td>Keynote</td>
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<tr>
<td>13:00 – 14:00</td>
<td>Session 1: Machine Learning</td>
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<tr>
<td>14:00 – 14:20</td>
<td>Break</td>
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<tr>
<td>14:20 – 16:20</td>
<td>Session 2: Software Development Activities</td>
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Tuesday, June 22, 2021

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<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>10:30 – 11:30</td>
<td>Session 3: Project Management</td>
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<tr>
<td>11:30 – 13:00</td>
<td>Lunch Break</td>
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<tr>
<td>13:00 – 14:40</td>
<td>Session 4: System Design</td>
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<tr>
<td>14:40 – 15:00</td>
<td>Break</td>
</tr>
<tr>
<td>15:00 – 16:40</td>
<td>Session 5: Security</td>
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Program in Detail

Monday, June 21, 2021

10:30am - 11:30am – Keynote

11:30am - 1:00pm – Lunch break

1:00pm - 2:00pm – Session 1: Machine Learning
Chair: TBA

A Comparative Study of Vectorization Approaches for Detecting Inconsistent Method Names [Best Student Award]
Tomoya Minehisa, Hirohisa Aman, Tomoyuki Yokogawa and Minoru Kawahara

Analysis of Focused Under-Sampling Techniques with Machine Learning Classifiers
Ankita Bansal and Abha Jain

Significance of Emphasized Features for Effective Representation on Deep Metric Learning
Shozo Saeki, Minoru Kawahara and Hirohisa Aman

2:00pm - 2:20pm – Break

2:20pm - 4:20pm – Session 2: Software Development Activities
Chair: TBA

Coverage-Guided Fairness Testing [Best Student Award]
Daniel Perez Morales, Takashi Kitamura and Shingo Takada

Accessible Programming Language for Visually Impaired Students
Sajeban Antonyrex

Supporting Software Development Task Understanding by Visualizing Operation History
Takayuki Omori and Atsushi Ohnishi

Generating Functional Requirements Based on Classification of Mobile Application User Reviews
Tanutcha Panthum and Twittie Senivongse

Classification of Database Technology Problems on Stack Overflow
Nuttanai Sowanchoochit and Twittie Senivongse

Measuring Software Change Impact Using Requirement Dependencies [Best Paper Award]
Job Champagne and Doris Carver
Tuesday, June 22, 2021

10:30am - 11:30am – Session 3: Project Management
Chair: TBA

A New Process Model of Incremental Asset Building for Software Project Management
Farzana Sadia, Mahady Hasan, Nazhat Nahar and M Rokonuzzaman

A Distributed Large-Scale Agile Software Development for Multiple Products and Its Practical Evaluation
Masayuki Tanaka and Mikio Aoyama

Quality Assurance Guidelines for Successful Startups
Shatadru Shikta, H. M. Mahir Shahriyar, Sovvik Kanti Das, Somania Nur Mahal, Kazi Bushra Al Jannat and Sabrina Alam

11:30am - 1:00pm – Lunch break

1:00pm - 2:40pm – Session 4: System Design
Chair: TBA

Operating System Framework for Transparent Execution on a CPU and FPGA
Shuichi Oikawa

Design of a blockchain-based decentralized architecture for sustainable agriculture
Gopi Krishna Akella, Santoso Wibowo, Srinan Narayana Grandhi and Sameera Mubarak

Integration Challenges for a Web-based Personalized Query Suggestions System in Information Retrieval
Ioan Badarinza, Adrian Sterca, Darius Bufnea and Virginia Niculescu

Energy-efficient Design of Many-cores: An Off-line Scheduling-based Flow
Ammar Manel

An MDE-based design methodology for Rapid Design Space Exploration of Multicore Embedded Systems
Ammar Manel

2:40pm - 3:00pm – Break

3:00pm - 4:40pm – Session 4: Security
Chair: TBA

Improvement of Legitimate Mail Server Detection Method using Sender Authentication
Shuji Sakuraba, Minami Yoda, Yuichi Sei, Yasuyuki Tahara and Akihiko Ohsaga

Automatic Security Inspection Framework for Trustworthy Supply Chain
Yuto Nakano, Toru Nakamura, Yasuaki Kobayashi, Takashi Ozu, Masahito Ishizaka, Masayuki Hashimoto, Hiroyuki Yokoyama, Yutaka Miyake and Shinsaku Kiyomoto

Application of partial differential equation method in fingerprint image enhancement
Ke Han and Xiaojun Li

Daniel Murphy, Minhaz Zibran and Farjana Eishita

Choosing the Weapon: A Comparative Study of Security Analyzers for Android Applications
Ryan Joseph, Minhaz Zibran and Farjana Eishita
## 2021 Conference Schedule

<table>
<thead>
<tr>
<th>Dates</th>
<th>Location</th>
<th>Conference Name</th>
<th>Acronym</th>
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<tbody>
<tr>
<td></td>
<td>Vietnam</td>
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<tr>
<td>June 23-25</td>
<td>Shanghai</td>
<td>20th IEEE/ACIS International Summer Conference on Computer and Information Science</td>
<td>ICIS 2021 Summer</td>
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<tr>
<td></td>
<td>China</td>
<td>1st ACIS International Conference on Artificial Intelligence (co-located with CIS 2021)</td>
<td>IAI 2021</td>
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<tr>
<td></td>
<td>China</td>
<td>*Technically sponsored by IEEE 8th ACIS International Conference on Computational Science/Intelligence &amp; Applied Informatics (co-located with BCD 2021)</td>
<td>CSII 2021</td>
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<tr>
<td>June 20-22</td>
<td>Kanezawa</td>
<td>18th IEEE/ACIS International Conference on Software Engineering, Management and Applications</td>
<td>SERA 2021</td>
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<tr>
<td></td>
<td>Japan</td>
<td>8th ACM/ACIS International Conference on Applied Computing &amp; Information Technology (co-located with SERA 2021)</td>
<td>ACIT 2021</td>
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<tr>
<td>Nov. 24-26</td>
<td>Taichung</td>
<td>22nd IEEE/ACIS International Summer Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing</td>
<td>SNPD 2021 Summer</td>
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<tr>
<td></td>
<td>Taiwan</td>
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<tr>
<td>Oct 13-15</td>
<td>Xi’An</td>
<td>21st IEEE/ACIS International Fall Conference on Computer and Information Science</td>
<td>ICIS 2021 Fall</td>
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<td>China</td>
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ACIS Journal Information

**International Journal of Networked and Distributed Computing (IJNDC)**
IJNDC is a world-class international journal. IJNDC Journal has been indexed in ESCI and Scopus and will ultimately be indexed in SCI *approximately* within one year or so.

**International Journal of Software Innovation (IJSI)**
IJSI is a world-class international journal. IJSI Journal has been indexed in ESCI and Scopus and will ultimately be indexed in SCI *approximately* within one year or so.
http://www.igi-global.com/ijsi

**International Journal of Big Data Intelligence and Applications (IJBDIA)**
IJBDIA is a world-class international journal. IJBDIA Journal has been indexed in Scopus.
http://www.igi-global.com/ijbdia

ACIS International Official Website
http://www.acisinternational.org