

ICCCI 2021

**2021 The 3rd International Conference on
Computer Communication and the Internet**

June 25^{Fri.}-27^{Sun.}, 2021

Japan Time (GMT+9)

Conference Program

www.iccci.org

Acknowledgements

Organizer:



Technical Co-sponsors:



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Excellent papers will be recommended to 'Special Issue ICCCI 2020&ICCCI 2021:
Advances in Baseband Signal Processing, Circuit Designs, and Communications' of Information
(ISSN 2078-2489)



Conference Partner

About ICCCI

The first IEEE ICCCI was sponsored by IEEE and Central China Normal University, P.R.China, which was held in the beautiful and historical city Wuhan in 2016. The second ICCCI was successfully held as a virtual conference owing to COVID-19. ICCCI 2021 serves to foster communication among researchers, engineers and relevant practitioners with a common interest of researching in the broad areas of computer communications and Internet, developing scientific and technological innovations in these areas. The primary focus of the conference is on new and original research results in the areas of theoretical findings, design, implementation, and applications of computer communications and Internet.

Contents Index

| | | | |
|---------------------------|-----|-------------------------------------|-------|
| I | 4 | VI | 10-13 |
| WELCOME MESSAGE | | DAILY SCHEDULE | |
| II | 5-6 | VII | 14-17 |
| ORGANIZING COMMITTEE | | KEYNOTE SPEECHES & SPEAKERS PROFILE | |
| III | 7 | VIII | 18 |
| CONFERENCE OVERALL AGENDA | | INVITED SPEECH & SPEAKER PROFILE | |
| IV | 8 | IX | 19-26 |
| SESSIONS AT A GLANCE | | ORAL SESSIONS | |
| V | 9 | Special Session I | 18 |
| GUIDELINE & TIPS | | Special Session II | 19 |
| | | Parallel Session I | 20 |
| | | Parallel Session 2 | 21 |
| | | Parallel Session 3 | 22 |
| | | Parallel Session 4 | 23 |
| | | Parallel Session 5 | 24 |
| | | Parallel Session 6 | 25 |

Welcome Message

ICCCI

Conference

25-27, June, 2021

You are immensely welcome to attend the 3rd International Conference on Computer Communication and the Internet (ICCCI 2021). The conference focuses on the trending, highly popular, but exciting and extremely challenging areas from our keynote speakers of leading scientists and a variety of authors around the world. The outcome of our deliberations will play a crucial role in progress achieved in these areas. The conference was scheduled in Nagoya this year. Due to the Covid-19, the organizing committee of ICCCI 2021 decided that this event still goes virtually.

The conference brings together researchers looking for opportunities for conversations that cross the traditional discipline boundaries and allows them to resolve multidisciplinary challenging problems. It is the clear intent of the conference to offer excellent mentoring opportunities to participants. Although we cannot meet each other physically, through this online platform, we trust that you will still be able to share the state-of-the-art developments and the cutting-edge technologies in these broad areas.

We have the conference for three days. There will be over 60 oral presentations divided into 8 sessions, 3 keynote speakers and 2 invited speakers.

Special thanks are extended to our colleagues in program committee for their thorough reviews of all the submissions, which are vital to the success of the conference, and also to the members in the organizing committee and the volunteers who had dedicated their time and efforts in planning, promoting, organizing and helping the conference. Last but not least, our special thanks go to speakers as well as all the authors for contributing their latest researches to the conference.

In closing, we thank you for participating in ICCCI 2021 and we hope you enjoy the next three days.



Conference Chair

Professor Yutaka Ishibashi

Nagoya Institute of Technology, Japan

Organizing Committee



Conference Chair

Yutaka Ishibashi

Nagoya Institute of Technology,
Japan



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Chisa Takano, Japan
Efthimios Tambouris, Greece
Kazuya Tsukamoto, Japan
Masato Tsuru, Japan
Takahiro Uchiya, Japan
Kiyoshi Ueda, Japan
Hitoshi Watanabe, Japan
Chih-Yu Wen, Taiwan
Miki Yamamoto, Japan
Hiroaki Yamanaka, Japan
Katsunori Yamaoka, Japan
Keiichi Yasumoto, Japan
Traianos V. Yioultsis, Greece
Tokumi Yokohira, Japan
Shingchern You, Taiwan

Overall Agenda

Day 1 | June 25, 2021 | Friday

10:30-16:00

Test Sessions

Day 2 | June 26, 2021 | Saturday

9:30-12:00

Opening Remarks, Keynote & Invited Speeches

13:30-15:30

Special Session I&II

16:00-18:00

Parallel Session 1&2

Day 3 | June 27, 2021 | Sunday

10:00-11:45

Parallel Session 3&4

14:30-16:30

Parallel Session 5&6

17:30-18:00

Closing & Awarding Ceremony

Sessions at a Glance

| Session | Papers |
|---|---|
| Special Session I <i>Advanced Image Processing</i> | C017, C038, C056, C0003 C0006, C0007, C0008, C0010 |
| Special Session II <i>QoS/QoE for IoT</i> | C030, C015, C023, C014 C005, C009, C011 |
| Parallel Session 1 <i>Cloud, Big Data, and AI</i> | C042, C044, C049, C050, C028 C013, C0004, C0009 |
| Parallel Session 2 <i>Image Analysis and Processing</i> | C0011, C008, C010 C0002, C0013, C4001 |
| Parallel Session 3 <i>Information Science and Engineering</i> | C062, C036-A, C1003, C0001 C0012, C037-A, C026 |
| Parallel Session 4 <i>Wireless and Mobile Networks</i> | C022, C034, C025, C027 C033, C043, C045 |
| Parallel Session 5 <i>Internet&Security</i> | C031, C055, C006, C052 C059, C040, C053 |
| Parallel Session 6 <i>Applications</i> | C024, C029, C032, C039 C041, C046, C054, C060 |

Guideline & Tips

Before the conference

Time Zone

Japan Time (GMT+9)

You're suggested to set up the time on your computer in advance.

Platform: ZOOM

ZOOM, Download link:

- ♦ <https://zoom.us/download>
- ♦ <https://zoom.com.cn/download> (for Chinese authors)

Equipment Needed

- A computer with internet connection and camera
- Headphone/earphone

Environment Needed

- A quiet place
- Stable internet connection
- Proper lighting and background

Test Your Presentation

Date: June 25, 2021

Prior to the formal meeting, presenters shall join the test room to ensure everything is on the right track. Please check your test time at page 9.

During the conference

Name

Name yourself with your paper ID + Name

Example: C001+Mary

Voice Control Rules

- The host will mute all participants while entering the meeting.
- The host will unmute the speakers' microphone when it is turn for his or her presentation.
- Q&A goes after each speaker, the participant can raise hand for questions, and the host will unmute the questioner.
- After Q&A, the host will mute all participants and welcome next speaker.

Oral Presentation

- Timing: a maximum of **15 minutes** in total, including 3 minutes for Q&A. Please make sure your presentation is well timed.
- It is suggested that the presenter email a copy of his/her video presentation to the conference email box as a backup in case any technical problem occurs.

*Conference Recording

The whole conference will be recorded. We appreciate you proper behavior and appearance.

Daily Schedule

Japan Time (GMT+9)

Friday, June 25, 2021

Day 1

Test Sessions

10:30-12:00

Test Session 1 Test for Special Session I&II **Meeting ID:** 927 9608 5223

Test Session 2 Test for Parallel Session 1, 2 & 3 **Meeting ID:** 935 2553 6366

14:30-16:00

Test Session 3 Test for Parallel Session 4, 5 & 6 **Meeting ID:** 927 9608 5223

Test Session 4 Test for Keynote/ Invited
Speakers and Session Chairs **Meeting ID:** 935 2553 6366

Daily Schedule

Japan Time (GMT+9)

Saturday, June 26, 2021

Day 2

Morning- Keynote & Invited Speeches

Meeting ID: 927 9608 5223

9:30-9:35

Opening Remarks

Yutaka Ishibashi

Nagoya Institute of Technology, Japan

9:35-10:55

Keynote Speech 1

"NTT R&D's Challenge toward Self-evolving Zero-Touch Network Operation with AI and Data Analysis"

Masakatsu Fujiwara

NTT Network Technology Laboratories, Japan

Keynote Speech 2

"Networked Sensing and Control for Internet of Medical Things"

Chih-Yu Wen

National Chung Hsing University, Taiwan

10:55-11:05

Group Photo & Break!

11:05-11:45

Keynote Speech 3

"Agent that Facilitates Crowd Discussion"

Takayuki Ito

Kyoto University, Japan

11:45-12:05

Invited Speech

"Security Threats from Insiders: The Current and The Future"

Hiroshi Fujinoki

Southern Illinois University Edwardsville, USA

Daily Schedule

Japan Time (GMT+9)

Saturday, June 26, 2021

Day 2

Afternoon- Oral Sessions

13:30-15:30

Special Session I *Advanced Image Processing* **Meeting ID:** 927 9608 5223

Special Session II *QoS/QoE for IoT* **Meeting ID:** 935 2553 6366

16:00-18:00

Parallel Session 1 *Cloud, Big Data, and AI* **Meeting ID:** 927 9608 5223

Parallel Session 2 *Image Analysis and Processing* **Meeting ID:** 935 2553 6366

Daily Schedule

Japan Time (GMT+9)

Sunday, June 27, 2021

Day 3

10:00-11:45

Parallel Session 3 *Information Science and Engineering* **Meeting ID:** 927 9608 5223

Parallel Session 4 *Wireless and Mobile Networks* **Meeting ID:** 935 2553 6366

14:30-16:30

Parallel Session 5 *Internet & Security* **Meeting ID:** 927 9608 5223

Parallel Session 6 *Applications* **Meeting ID:** 935 2553 6366

17:30-18:00

Closing & Awarding Ceremony **Meeting ID:** 927 9608 5223

Opening Remarks

Day 2-June 26

Meeting ID: 927 9608 5223 (<https://zoom.com.cn/j/92796085223>)

Conference Chair



Yutaka Ishibashi
Nagoya Institute of
Technology, Japan



9:30-9:35

Short Bio: Yutaka Ishibashi received the B.E., M.E., and Ph.D. degrees from Nagoya Institute of Technology, Nagoya, Japan, in 1981, 1983, and 1990, respectively. In 1983, he joined the Musashino Electrical Communication Laboratory of Nippon Telegraph and Telephone Public Corporation (currently, NTT). From 1993 to 2001, he served as an Associate Professor of Department of Electrical and Computer Engineering, Faculty of Engineering, Nagoya Institute of Technology. Currently, he is a Professor of Department of Computer Science, Graduate School of Engineering, Nagoya Institute of Technology. From June 2000 to March 2001, he was a visiting researcher, Department of Computer Science and Engineering, University of South Florida (USF), USA. He was the Head of Department of Computer Science, Nagoya Institute of Technology from 2005 to 2006 and from 2007 to 2009. He is currently one of the four College Directors at Nagoya Institute of Technology. His research interests include multisensory communications, QoS (Quality of Service) control, and remote robot control with force feedback.

He was the Chair of the IEICE Communication Quality Technical Committee from 2007 to 2009. He served as TPC Chair of IEEE CQR (Communications Quality and Reliability) Workshop in 2011 and 2012. He also served as NetGames (Network and Systems Support for Games) Workshop Co-Chair in 2006, 2010, 2014, and 2017, Executive Committee Chair of Tokai-Section Joint Conference on Electrical, Electronics, Information, and Related Engineering in Japan, Chair of IEEE MAW 2017 (Metro Area Workshop in Nagoya, 2017), Conference Co-Chairs of IEEE ICCS 2017 and 2018 and ICECE 2018, Conference Chair of ICCCS 2018, Technical Program Chair of IEEE ICCE-TW 2018, and Conference Co-Chairs of IC FCC 2019 and ICCET 2019. He was IEEE Nagoya Section Secretary in 2015 and 2016 and IEEE Nagoya Section Chair in 2017 and 2018, and he is currently IEEE Nagoya Section Past Chair. He is further a Steering Committee Member of NetGames. He is a Fellow of IEICE, a Senior member of IEEE, and a Member of ACM, ITE, IPSJ, VRSJ, and IEEJ.

Keynote Speech

Day 2-June 26

Meeting ID: 927 9608 5223 (<https://zoom.com.cn/j/92796085223>)

Speaker



Masakatsu Fujiwara
NTT Network Technology
Laboratories, Japan



9:35-10:15

Short Bio: Masakatsu Fujiwara is the Vice President and Head of Communication Traffic & Service Quality Project, NTT Network Technology Laboratories, Japan.

He received a B.E. in electrical engineering and an M.E. in applied systems science from Kyoto University in 1994 and 1996, and an M.B.A. from Cornell University, USA, in 2005.

“NTT R&D's Challenge toward Self-evolving Zero-Touch Network Operation with AI and Data analysis”

Abstract: Beyond the 5G era, network will serve as a critical social infrastructure that supports the cyber physical system with massive and diverse devices as well as service requirements. In such a situation, self-evolving zero-touch network operation with AI and data analysis will be essential to provide network functions and resources flexibly and dynamically. In addition, the key indicators of network value will expand from conventional parameters inside networks, such as throughput or latency, to the outside indicators such as user benefit or user behavior change. We introduce the concept and technologies concerning the self-evolving zero-touch and user-engagement as the direction of future network operation.

Keynote Speech

Day 2-June 26

Meeting ID: 927 9608 5223 (<https://zoom.com.cn/j/92796085223>)

Speaker



Chih-Yu Wen
National Chung Hsing
University, Taiwan

Short Bio: Chih-Yu Wen received the Ph.D. degree in electrical engineering from the University of Wisconsin-Madison, USA, in 2005. He joined the Department of Electrical Engineering at National Chung Hsing University, Taichung, Taiwan in 2006, where he is now a Distinguished Professor. His current research interests include wireless communications, biomedical signal processing for health monitoring, software-defined radio, smart agriculture, and distributed networked sensing and control. He has held twelve Taiwanese invention patents in pervasive healthcare. Prof. Wen is a member of Chinese Institute of Engineers and a senior member of IEEE. Since January 2018, he has served as an Associate Editor of IET signal processing. Since July 2020, he has also been a Guest Editor of the Processes Journal for the Special Issue - Smart Systems and Internet of Things (IoT). He received the Outstanding Young Investigator Award - National Chung Hsing University in 2014, and the National Innovation Awards - Institute for Biotechnology and Medicine Industry in 2016, 2018 and 2019.

"Networked Sensing and Control for Internet of Medical Things"



10:15-10:55

Abstract: With the developments of networked sensing and information processing technologies, significant breakthroughs have been made for the Internet of Medical Things (IoMT) applications.

In order to successfully implement the IoMT healthcare, smart and effective solutions linked to the cross-cutting issues will be an important subject in future engineering design.

This talk will leverage IoMT techniques and describe general issues of human-centric problems, which emphasizes on design process and architecture model for problem solving and application service.

Two case studies, considering pervasive rehabilitation monitoring for chronic obstructive pulmonary disease and smart carryable drip frame with automatic balancing, will be presented to demonstrate the conceptual design principles and system operation procedures

Keynote Speech

Day 2–June 26

Meeting ID: 927 9608 5223 (<https://zoom.com.cn/j/92796085223>)

Speaker



Takayuki Ito
Kyoto University,
Japan

Short Bio: Dr. Takayuki ITO is Professor of Kyoto University. He received the Doctor of Engineering from the Nagoya Institute of Technology in 2000. He was a JSPS research fellow, an associate professor of JAIST, and a visiting scholar at USC/ISI, Harvard University, and MIT twice. He was a board member of IFAAMAS, the PC-chair of AAMAS2013, PRIMA2009, General-Chair of PRIMA2014, IEEE ICA2016, is the Local Arrangements Chair of IJCAI2020, and was a SPC/PC member in many top-level conferences (IJCAI, AAMAS, ECAI, AAAI, etc). He received the JSAI Achievement Award, the JSPS Prize, the Fundamental Research Award of JSSST, the Prize for Science and Technology of the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science, and Technology (MEXT), the Young Scientists' Prize of the Commendation for Science and Technology by the MEXT, the Nagao Special Research Award of IPSJ, the Best Paper Award of AAMAS2006, the 2005 Best Paper Award of JSSST, and the Super Creator Award of 2004 IPA Exploratory Software Creation Project. He was a JST PREST Researcher, and a principal investigator of the Japan Cabinet Funding Program for Next Generation World-Leading Researchers. He is currently principal investigator of JST CREST project.



11:05–11:45

“Agent that Facilitates Crowd Discussion”

Abstract: Online discussion among civilian is important and essential for next-generation democracy. Providing good support is critical for establishing and maintaining coherent discussions. Large-scale online discussion platforms are receiving great attention as potential next-generation methods for smart democratic citizen platforms. Such platforms require support functions that can efficiently achieve a consensus, reasonably integrate ideas, and discourage flaming. Researchers are developing several crowd-scale discussion platforms and conducting social experiments with a local government. One of these studies employed human facilitators in order to achieve good discussion. However, they clarified the critical problem faced by human facilitators caused by the difficulty of facilitating large-scale online discussions. In this work, we propose an automated facilitation agent to manage crowd-scale online discussions. An automated facilitator agent extracts the discussion structure from the texts posted in discussions by people. In this paper, we present our current implementation of D-agree, a crowd-scale discussion support system based on an automated facilitation agent, which extracts discussion structures from text discussions, analyzes them, and posts facilitation messages. We conducted a large-scale social experiment with Nagoya City's local government. The results present that our automated facilitation agents succeeded to gather more opinions from people. Also, we found that people satisfactions on both discussions by automated facilitation agents and discussions by human facilitators were almost same score. Our main contribution is that this is one of the earliest real trials, in which an automated agent facilitated discussion among people in the real society.

Day 3-June 26

Meeting ID: 927 9608 5223 (<https://zoom.com.cn/j/92796085223>)

Speaker



Hiroshi Fujinoki
Southern Illinois
University Edwardsville,
USA



11:45-12:05

Short Bio: Dr. Fujinoki is currently a professor in the Department of Computer Science at Southern Illinois University Edwardsville. His primary research interest is in network protocols, routing mechanisms in large-scale networks, and network security. He has been contributing to the research fields, especially by publishing papers through IEEE- and ACM-sponsored international conferences and journal publishers worldwide. Dr. Fujinoki's papers have been cited by researchers over the world. In the education front, Dr. Fujinoki has been contributing to awareness of cyber security not only to the CS majors, but to other majors, such as civil engineers and to the public transportation communities in the United States. Dr. Fujinoki participated in US Transportation Command (US-TRANSOM) and Illinois Department of Transportation (IDOT) for enhancing their security and efficiency in their information systems in the past.

"Security Threats from Insiders: The Current and The Future"

Abstract: An insider threat is a security risk that originates from within the targeted organization, including sabotage, theft, espionage, fraud, and competitive advantage that are carried out through abusing access rights, theft of materials, and mishandling physical devices (DHS Security National Cybersecurity and Communications Integration Center).

In the recent years, regardless of their sizes, businesses, from small individual merchants to large, such as Boeing, are frequently targeted. Incidents involving insider threats are on the rise, causing 47% increase during 2018 through 2019. The rise indicates that threats have become a menace to our cyber infrastructure, especially when the global average loss caused by an insider threat has reached \$11.45 million in 2019, up from \$8.76 million in 2018.

Law enforcement agencies, such as FBI, also have been groping ways to tighten guards against insider threats to prevent possible losses in domestic intellectual properties, which can be worth multi-billion dollars in the hands of their antagonistic nations. In this short talk, we will discuss the status quo, recent and foreseen future developments, and possible solutions to enhance our awareness, as well as to prevent and mitigate the damages from the recently rampant threats in cyber space.

Special Session

[13:30-15:30, June 26]

Special Session I: Advanced Image Processing

Meeting ID: 927 9608 5223

Meeting Link: <https://zoom.com.cn/j/92796085223>

Chair: Assoc. Prof. Tomio Goto, Nagoya Institute of Technology, Japan

| | | |
|-------------|--------------|---|
| 13:30-13:45 | C017 | <i>EfficientNet Based Iris Biometric Recognition Methods with Pupil Positioning by U-Net</i> Cheng-Shun Hsiao, Prof. Chih-Peng Fan National Chung Hsing University, Taiwan |
| 13:45-14:00 | C038 | <i>Improving Face Recognition using Pre-trained Models for Mask Wearer Images</i> Mr. Masaki Hongo , Tomio Goto Nagoya Institute of Technology, Japan |
| 14:00-14:15 | C056 | <i>ViT-GAN: Using Vision Transformer as Discriminator with Adaptive Data Augmentation</i> Mr. Shota HIROSE , Naoki WADA, Jiro KATTO, Heming SUN Waseda University, Japan |
| 14:15-14:30 | C0003 | <i>Unified Approach to Fast Convergent Row-Action-Type Iterative Methods for PET Image Reconstruction Using Multi Proximal Splitting</i> Mr. Kazuya Sadakata , Heejeong Kim, Hiroyuki Kudo University of Tsukuba, Japan |
| 14:30-14:45 | C0006 | <i>Multi-scale Pedestrian Detection Based on Receptive Field Matching</i> Mr. Chaoqi Yan , Hong Zhang, Xuliang Li, Hao Chen, Ding Yuan Beihang University, China |
| 14:45-15:00 | C0007 | <i>Image Recognition by Quantum Annealing Using Multi-bit Spin Variables</i> Prof. Kazutake Uehira , Hiroshi Unno Kanagawa Institute of Technology, Japan |
| 15:00-15:15 | C0008 | <i>Helicobacter Pylori Infection Classification Based on Convolutional Neural Network and Self-Supervised Learning</i> Guo-Zhang Jian, Assoc. Prof. Guo-Shiang Lin , Chuin-Mu Wang, Sheng-Lei Yan National Chin-Yi University of Technology, Taiwan |
| 15:15-15:30 | C0010 | <i>Faster R-CNN based on Optimized SqueezeNet for Liver Lesion Detection from DeepLesion Dataset</i> Mohammad Alkhaleefah, Tan-Hsu Tan, Vishnu Priya Achhannagari, Shang-Chih Ma, Min-Jui Tsai, Yang-Lang Chang National Taipei University of Technology, Taiwan |

[13:30-15:15, June 26]

Special Session II: QoS/QoE for IoT

Meeting ID: 935 2553 6366

Meeting Link: <https://zoom.com.cn/j/93525536366>

Chair: Assoc. Prof. Pingguo Huang, Gifu Shotoku Gakuen University, Japan

| | | |
|-------------|-------------|--|
| 13:30-13:45 | C030 | <i>Switching Scheme between Adaptive Viscosity Control and Stabilization Control by Viscosity in Remote Control System with Haptics</i> Ms. Lu CHEN , Yutaka ISHIBASHI, Pingguo HUANG, Yuichiro TATEIWA Nagoya Institute of Technology, Japan |
| 13:45-14:00 | C015 | <i>Research on Single Sign-on Technology for Educational Administration Information Service platform</i> Assoc. Prof. Fang Ming Guo and Tao Huang Academic Affairs Office of Wuhan University of Technology, China |
| 14:00-14:15 | C023 | <i>Comparison of Stabilization Control for Writing Characters in Remote Robot System with Force Feedback</i> Mr. Ruzhou Ye , Yutaka Ishibashi, Pingguo Huang and Yuichiro Tateiwa Nagoya Institute of Technology, Japan |
| 14:15-14:30 | C014 | <i>Enhancing Power Added Efficiency of Doherty Amplifier by Changing Power Ratio of Carrier Amplifier and Peak Amplifier</i> Mr. Guanyu Mu and Hitoshi Hayashi Sophia University, Japan |
| 14:30-14:45 | C005 | <i>QoE Assessment of Human Perception of Softness in Networked Haptic Virtual Environment</i> Ms. May Zin Oo , Yutaka Ishibashi, Khin Than Mya Nagoya Institute of Technology, Japan |
| 14:45-15:00 | C009 | <i>An Efficient RAID6 System based on XOR Accelerator</i> Ruizhen Wu , Yan Wu, Mingming Wang, Lin Wang Inspur Electronic Information Industry Co.,Ltd, China |
| 15:00-15:15 | C011 | <i>Speech Steganalysis based on Multi-classifier Combination</i> Mr. Chenlei Zhang , Junjun Guo Civil Aviation University of China, China |

Parallel Session

[16:00-18:00, June 26]

Parallel Session 1: Cloud, Big Data, and AI

Meeting ID: 927 9608 5223

Meeting Link: <https://zoom.com.cn/j/92796085223>

Chair: Prof. Takanori Miyoshi, Nagaoka University of Technology, Japan

| | | |
|-------------|--------------|---|
| 16:00-16:15 | C042 | <i>Alpha Beta Pruned UNet – A Modified UNet Framework to Segment MRI Brain Image to Analyze the Effects of CNTNAP2 Gene towards Autism Detection</i> Ms. Nagashree N. , Dr. Premjyoti Patil, Dr. Shantakumar Patil, Mr. Mallikarjun Kokatanur Nagarjuna College of Engineering and Technology, India |
| 16:15-16:30 | C044 | <i>Built-in Encrypted Health Cloud Environment for Sharing COVID-19 Data</i> Mohammed Y. Shakor, Ms. Nigar M. Shafiq Surameery University of Garmian, Iraq |
| 16:30-16:45 | C049 | <i>A Heterogeneous Graph Attention Network-Based for Web Service Link Prediction</i> Ms. Wenhui He , Chunhe Xia, Zhong Li, Xiaochen Liu, Tianbo Wang Beijing Key Laboratory of Network Technology, China |
| 16:45-17:00 | C050 | <i>Traffic Prediction and Resource Allocation Based on Deep Bidirectional LSTM in Data Center Networks</i> Mr. Yonghuai Wang Shanxi Tele-construction Engineering Corporation, China |
| 17:00-17:15 | C028 | <i>Redunacny Features Detection and Removal for Simplification of Convolutional Neural Networks</i> Prof. Shih-Chang Hsia and Yu-Kuan Yang National Yunlin University of Science and Technology, Taiwan |
| 17:15-17:30 | C013 | <i>End-to-End Model Based on Rnn-T For Kazakh Speech Recognition</i> Orken Mamyrbayev, Ms. Dina Oralbekova , Aizat Kydyrbekova, Tolganay Turdalykyzy, Akbayan Bekarystankyzy Satbayev University, Kazakhstan |
| 17:30-17:45 | C0004 | <i>A Human Activity Recognition Approach Based on Skeleton Extraction and Image Reconstruction</i> Dr. Yanbing Chen , Wei Ke, Ka-Hou Chan, Zhang Xiong Macao Polytechnic Institute, China |
| 17:45-18:00 | C0009 | <i>LAISES – Learning AI Integrating System for Elementary Students</i> Adam Fahsyah Nurzaman, Riyanti Teresa Tedja, Mr. Laksamana Kusuma , Yohannes Kurniawan Bina Nusantara University, Indonesia |

[16:00-17:30, June 26]

Parallel Session 2: Image Analysis and Processing

Meeting ID: 935 2553 6366

Meeting Link: <https://zoom.com.cn/j/93525536366>

Chair: Prof. Chih-Peng Fan, National Chung Hsing University, Taiwan

| | | |
|-------------|--------------|---|
| 16:00-16:15 | C0011 | <i>Speech Steganalysis based on Multi-classifier Combination</i> Mr. Chenlei Zhang , Junjun Guo Civil Aviation University of China, China |
| 16:15-16:30 | C008 | <i>Built-in Encrypted Health Cloud Environment for Sharing COVID-19 Data</i> Mohammed Y. Shakor, Ms. Nigar M. Shafiq Surameery University of Garmian, Iraq |
| 16:30-16:45 | C010 | <i>A Heterogeneous Graph Attention Network-Based for Web Service Link Prediction</i> Ms. Wenhui He , Chunhe Xia, Zhong Li, Xiaochen Liu, Tianbo Wang Beijing Key Laboratory of Network Technology, China |
| 16:45-17:00 | C0002 | <i>Traffic Prediction and Resource Allocation Based on Deep Bidirectional LSTM in Data Center Networks</i> Mr. Yonghuai Wang Shanxi Tele-construction Engineering Corporation, China |
| 17:00-17:15 | C0013 | <i>Redunacny Features Detection and Removal for Simplification of Convolutional Neural Networks</i> Prof. Shih-Chang Hsia and Yu-Kuan Yang National Yunlin University of Science and Technology, Taiwan |
| 17:15-17:30 | C4001 | <i>End-to-End Model Based on Rnn-T For Kazakh Speech Recognition</i> Orken Mamyrbayev, Ms. Dina Oralbekova , Aizat Kydyrbekova, Tolganay Turdalykyzy, Akbayan Bekarystankyzy Satbayev University, Kazakhstan |

[10:00–11:45, June 27]

Parallel Session 3: Information Science and Engineering

Meeting ID: 927 9608 5223

Meeting Link: <https://zoom.com.cn/j/92796085223>

Chair: Prof. Nobuo Funabiki, Okayama University, Japan

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| 10:00-10:15 | C062 | <i>Content-based Technical Solution for Cyberstalking Detection</i> Ms. Audrey Asante and Xiaohua Feng Catholic University College of Ghana, Ghana |
| 10:15-10:30 | C036-A | <i>Optimization of a Preventive Replacement Last Policy for a Working System with Random Lead-Time</i> Assoc. Prof. Chin-Chih Chang and Yen-Luan Chen Takming University of Science and Technology, Taiwan |
| 10:30-10:45 | C1003 | <i>Towards Mass Individualized Production: RAMI 4.0 Asset Data Channelling for Manufacturing Value Chain Connectivity</i> Mr.Hang Jen Hin , Lee Wah Pheng, Dr Lim Yee Mei Tunku Abdul Rahman University College, Malaysia |
| 10:45-11:00 | C0001 | <i>The Condition and Strategies to Improve Knowledge Management Capabilities of Hospital (Indonesian Context)</i> Yohannes Kurniawan, Fredy Jingga, Ms. Natalia Limantara Bina Nusantara University, Indonesia |
| 11:00-11:15 | C0012 | <i>CUDA-enabled Programming for Accelerating Flood Simulation</i> Chin-Pin Ko, Mohammad Alkhaleefah, Chiang-An Hsu, Praveen Kumar Chittam, Min-Yu Huang, Yang-Lang Chang National Taipei University of Technology, Taiwan |
| 11:15-11:30 | C037-A | <i>Optimal Discrete Preventive Replacement Policy for A Tandem System</i> Assoc. Prof. Chin-Chih Chang and Yen-Luan Chen Takming University of Science and Technology, Taiwan |
| 11:30-12:45 | C026 | <i>Data Offloading in Heterogeneous Dynamic Fog Computing Network: A Contextual Bandit Approach</i> Ms. Yuchen Shan , Hui Wang, Zihao Cao, Kozyrev Yury Zhejiang Normal University, China |

[10:00-11:45, June 27]

Parallel Session 4: Wireless and Mobile Networks

Meeting ID: 935 2553 6366

Meeting Link: <https://zoom.com.cn/j/93525536366>

Chair: Prof. Shinji Sugawara, Chiba Institute of Technology, Japan

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| 10:00-10:15 | C022 | <p><i>Performance Evaluation on Concurrent Connecting QUIC and TCP Nodes over Wireless LAN</i></p> <p>Mr. Nobuo Aoki, Kouhei Okazaki, Hiroyasu Obata, Junichi Funasaka Hiroshima City University, Japan</p> |
| 10:15-10:30 | C034 | <p><i>Resource Allocation Strategy for Dual UAVs-Assisted MEC System with Hybrid Solar and RF Energy Harvesting</i></p> <p>Mr. Xinya Xu, Yisheng Zhao, Lijia Tao, and Zhimeng Xu Fuzhou University, China</p> |
| 10:30-10:45 | C025 | <p><i>How Successful in Individual Prosumer Performance in Thailand</i></p> <p>Asst. Prof. Arissa Sa-Ardnak, Wornchanok Chaiyasoonthorn and Singha Chaveesuk Silpakorn University, Thailand</p> |
| 10:45-11:00 | C027 | <p><i>An Innovative High-Frequency Wireless Communication Technique Inspired by Multi-Frequency Carrier Signals</i></p> <p>Mr. Prashnatita Pal, Bikash Chandra Sahana, Jayanta Poray National Institute of Technology, India</p> |
| 11:00-11:15 | C033 | <p><i>UAV-Assisted Resource Allocation Strategy in Energy Harvesting Edge Computing System</i></p> <p>Mr. Lijia Tao, Yisheng Zhao, Xinya Xu, Zhimeng Xu Fuzhou University, China</p> |
| 11:15-11:30 | C043 | <p><i>VoWiFi Cell Capacity Evaluation using IEEE 802.11ac for VBR Traffic</i></p> <p>Mr. Ayes Chinmay and Hemanta Kumar Pati IIIT Bhubaneswar, India</p> |
| 11:30-11:45 | C045 | <p><i>Improved AOMDV Routing Protocol in Manet UAV based on Virtual Hop</i></p> <p>Mr. Mesmin J Mbyamm Kiki, Ibrahim Iddi and Haruna Yunusa Beihang University, China</p> |

Parallel Session

[14:30-16:15, June 27]

Parallel Session 5: Internet & Security

Meeting ID: 927 9608 5223

Meeting Link: <https://zoom.com.cn/j/92796085223>

Chair: Assoc. Prof. Kostas E. Psannis, University of Macedonia, Greece

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| 14:30-14:45 | C031 | <i>Developing an Acceptance Model for Use with Online Video-sharing Platforms</i> Mr. Ittipat Chinangkulpiwat , Singha Chaveesuk, Wornchanok Chaiyasoonthorn King Mongkut's Institute of Technology, Thailand |
| 14:45-15:00 | C055 | <i>A Content Prepositioning Using Popularity Prediction in Hybrid Peer-to-Peer Network with Cloud Storage</i> Mr. Kazumasa Takahashi , Shinji Sugawara Chiba Institute of Technology, Japan |
| 15:00-15:15 | C006 | <i>Towards a Multi-Label Dataset of Internet Traffic for Digital Behavior Classification</i> Dr. Wenbin Li , Gaspard Quenard Orange S.A., France |
| 15:15-15:30 | C052 | <i>The Use of Communication Technology in Establishing Community Relationships Applied by School Administration Staff, in relation to their Education Level and Age</i> Bambang Budi Wiyono , Henny Indreswari, Arif Prastiawan Universitas Negeri Malang, Indonesia |
| 15:30-15:45 | C059 | <i>Simulation of Tele-Force-Position Sharing System with 1000 Clients Considering MMOG</i> Prof. Takanori Miyoshi and Ho Duc Tho Nagaoka University of Technology, Japan |
| 15:45-16:00 | C040 | <i>Analyzing Cyber Crimes during COVID-19 Time in Indonesia</i> Mr. Abdul Hanief Amarullah , Arthur Josias Simon Runturambi and Bondan Widiawan Universitas Indonesia, Indonesia |
| 16:00-16:15 | C053 | <i>Security Performance of Public Key Distribution in Coherent Optical Communications Links</i> Mr. Mostafa Khalil , Adrian Chan, Kh Arif Shahriar, Lawrence Chen, David Plant and Randy Kuang McGill University, Canada |

[14:30-16:30, June 27]

Parallel Session 6: Applications

Meeting ID: 935 2553 6366

Meeting Link: <https://zoom.com.cn/j/93525536366>

Chair:

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| 14:30-14:45 | C024 | <i>Using Semi-personalized Loudness Difference for Improved Surround Sound Rendered by Headphones</i> Prof. Shingchern You and Fan-Hao-Chi Fang National Taipei University of Technology, Taiwan |
| 14:45-15:00 | C029 | <i>White balance Color Correction based on MICRO LED Display Panel</i> Prof. Shih Chang Hsia , Chun-Jung Liao National Yunlin University of Science and Technology, Taiwan |
| 15:00-15:15 | C032 | <i>Three Dimensional Light Detection and Ranging Decoder Design</i> Sheng-Bi Wang, Prof. Yu-Cheng Fan National Taipei University of Technology, Taiwan |
| 15:15-15:30 | C039 | <i>Video-Based Facial Recognition Develop for Accurately Identify People Wearing Surgical Masks</i> Mr. Chanate Ratanaubol , Panita Wannapiroon and Prachyanun Nilsook King Mongkut's University of Technology, Thailand |
| 15:30-15:45 | C041 | <i>A Parameter Optimization Method for Fingerprint-based Indoor Localization System Using IEEE 802.15.4 Devices</i> Yuanzhi Huo, Pradini Puspitaningayu, Prof. Nobuo Funabiki , Kazushi Hamazaki, Minoru Kuribayashi, Kazuyuki Kojima Okayama University, Japan |
| 15:45-16:00 | C046 | <i>The Architecture Design for Publicizing Digital Competence to Online Job Market</i> Dr. Sukosol Wanotayapitak , Kobkiat Saraubon and Prachyanun Nilsook King Mongkut's University of Technology, Thailand |
| 16:00-16:15 | C054 | <i>CodeHelper: A Web-based Lightweight IDE for E-Mentoring in Online Programming Courses</i> Mr. Xiao Liu , Gyun Woo Pusan National University, South Korea |
| 16:15-16:30 | C060 | <i>Development of Smart Bus Management System using NB-IoT</i> Dr. Surachet Sangkhapan , Panita Wannapiroon, Prachyanun Nilsook Princess of Naradhiwas University, Thailand |



Thank you for your attending