

2022 IEEE International Conference on Big Data and Smart Computing

January 17(Mon.)-20(Thu.), 2022

HOTEL INTER-BURGO DAEGU, Daegu, Korea



Conference Program

Organized by



Patrons



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- Yu Suzuki, Gifu University
- Yujin Lim, Sookmyung Women's University
- Zhe Xue, BUPT
- Zubair Baig, Deakin University

Greetings

Chair's Message

On behalf of the conference organizing committee and the program committee, it is our great pleasure to welcome you to the 2022 IEEE International Conference on Big Data and Smart Computing. The conference is co-sponsored by IEEE and KIISE (Korean Institute of Information Scientists and Engineers).

Big data and smart computing are emerging research fields that have recently drawn much attention from computer science and information technology as well as from social sciences and other disciplines. The goal of the International Conference on Big Data and Smart Computing (BigComp), initiated by KIISE, is to provide an international forum for exchanging ideas and information on current studies, challenges, research results, system developments, and practical experiences in these emerging fields.

Following the successes of the previous BigComp conferences in Bangkok, Thailand (2014), Jeju, Korea (2015), Hong Kong, China (2016), Jeju, Korea (2017), Shanghai, China (2018), Kyoto, Japan (2019), Pusan, Korea (2020), and Jeju, Korea (2021), the 2022 IEEE International Conference on Big Data and Smart Computing (BigComp 2022) is held in Daegu, Korea. BigComp 2022 attracted 105 paper submissions, from which the Program Committee selected 26 regular papers and 30 short papers to be included in these proceedings.

The conference also attracted eight workshops. They are (1) The Third International Workshop on Conceptual Modeling for Big Data and Smart Computing (Conceptual Modeling 2022), (2) The Second International Workshop on Big Data and Smart Computing for Military and Defense Technology (BigDefense 2022), (3) The Third International Workshop on Social Health in the Era of Big Data (SHEBD 2022), (4) The Second International Workshop on Science & Technology Policy for Bigdata & AI Computing (STP Comp 2022), (5) The Second International Workshop on VOICE Artificial Intelligence (VOICE AI 2022), (6) The First International Workshop on Artificial Intelligence in Biomedicine and Healthcare (AI-BioHealth 2022), (7) The Fifth International Workshop on Dialog Systems (IWDS 2022), and (8) International Workshop on Medical Big Data & Smart Hospital 2022.

We are honored to present two distinguished keynote speakers: Prof. Timos Sellis from Australia and Prof. Beng Chin Ooi from Singapore.

The conference is a result of the work of many individuals. The Program Committee has 87 members, who provided more than 302 separate reviews. Also, we would like to thank to all members of organizing committee for their efforts to make this conference happen.

Greetings

We would like to thank the KIISE staffs, who worked silently but efficiently and effectively behind the scene to make the conference run smoothly. We also thank the BigComp Steering Committee for its guidance, and the relevant IEEE teams for their assistance.

Finally, we thank all the authors, presenters, and participants of the conference. We hope that all of you enjoy the conference!

General Chairs:



Herwig Unger
University of Hagen, Germany



Young-Kuk Kim
Chungnam Natl' Univ., Korea

Organizing Co-Chairs:



Joo-Yeon Lee
Ajou Univ., Korea



Phayung Meesad
KMUTNB, Thailand

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Eenjun Hwang
Korea Univ., Korea



Sung-Bae Cho
Yonsei Univ., Korea



Stephan Pareigis
*Hamburg Univ. of Applied
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Kyamakya Kyandoghere
Klagenfurt Univ., Austria

Conference Program (At a Glance)

IEEE Web Proceedings are now available.

URL: <https://conferences.computer.org/bigcomppub>

Login Information: ID: bigcomppub22 Password: conf22//

Workshop Day: January 17 (Monday), 2022				
Time	Joyful Hall	Happy Hall	Ladies Hall	Amante Hall
08:30-19:00	Registration			
10:30-12:00	WS1: Conceptual Modeling 2022 (Online+Offline)	N/A	N/A	N/A
12:00-13:20	Lunch			
13:20-19:00	Conceptual Modeling 2022 (Cont'd)	WS6: AI-BioHealth 2022 (Online+Offline)	WS2: BigDefense 2022 (Online Only)	WS7: IWDS 2022 (Online Only)
Main Conference Day 1 & Workshop Day: January 18 (Tuesday), 2022				
Time	Joyful Hall	Happy Hall	Ladies Hall	Amante Hall
08:30-19:00	Registration			
08:30-09:00	Opening (JooYeoun Lee, Ajou Univ.)		N/A	N/A
09:00-10:15	Keynote Speech 1 Re-configuring data practices for Intelligent, Reliable and Responsible decision-making systems (Timos Sellis, META & Swinburne University of Technology)			
10:15-10:30	Coffee Break			
10:30-12:15	Tutorial 1 Machine Learning on Graphs (Chan Young Park, KAIST)	Session 1 Big Data Application	N/A	N/A
12:15-13:15	Lunch			
13:15-15:00	Tutorial 2 Multi-resolution Graph Analysis for Graphical Model Selection and Graph Classification (Won Hwa Kim, POSTECH)	Session 2 Machine Learning 1	WS4: STP Comp 2022 (Online+Offline)	N/A
15:00-15:15	Coffee Break			
15:15-17:00	Session 3A Machine Learning 2	Session 3B Machine Learning 3	STP Comp 2022 (Cont'd)	WS8: Medical Big Data & Smart Hospital 2022 (Online+Offline)
17:00-17:15	Coffee Break			
17:15-19:00	Session 4A Deep Learning	Session 4B Graph Mining	STP Comp 2022 (Cont'd)	N/A

Conference Program (At a Glance)

Main Conference Day 2 & Workshop Day: January 19 (Wednesday), 2022				
Time	Joyful Hall	Happy Hall	Ladies Hall	Amante Hall
09:00-19:00	Registration			
09:15-10:30	Keynote Speech 2 Trusted Database Technology: A Foundation for Enabling Digital Trust (Beng Chin Ooi, National University of Singapore)		N/A	N/A
10:30-11:00	Coffee Break			
11:00-12:15	Panel 1 (Steven Euijong Whang, KAIST, Korea) Data-centric approaches for Trustworthy AI		N/A	N/A
12:15-13:15	Lunch			
13:15-15:00	Session 5A Data Mining 1	Session 5B Data Mining 2	WS3: [* Schedule Change: 14:30~19:00] SHEBD 2022 (Online+Offline)	WS5: [* Closed Session] VOICE AI 2022 (Online+Offline)
15:00-15:15	Coffee Break			
15:15-17:00	Session 6A Natural Language Processing	Session 6B Image Processing 1	SHEBD 2022 (Cont'd)	VOICE AI 2022 (Cont'd)
17:00-17:15	Coffee Break			
17:15-19:00	Session 7A Time Series	Session 7B Image Processing 2	SHEBD 2022 (Cont'd)	VOICE AI 2022 (Cont'd)
Main Conference Day 3: January 20 (Thursday), 2022				
Time	Joyful Hall	Happy Hall	Ladies Hall	Amante Hall
09:00-19:00	Registration			
09:15-11:00	Session 8A Smart Computing	Session 8B Recommender System	N/A	N/A
11:00-11:15	Closing			

Conference Venue

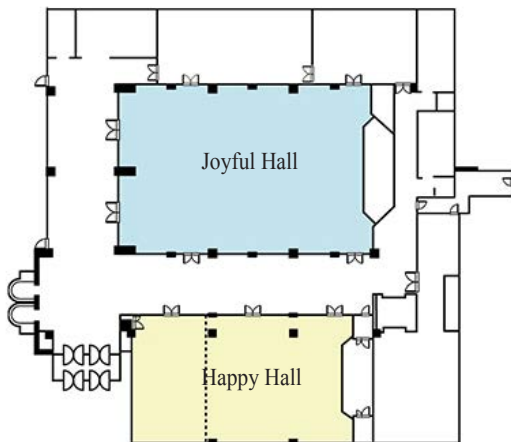
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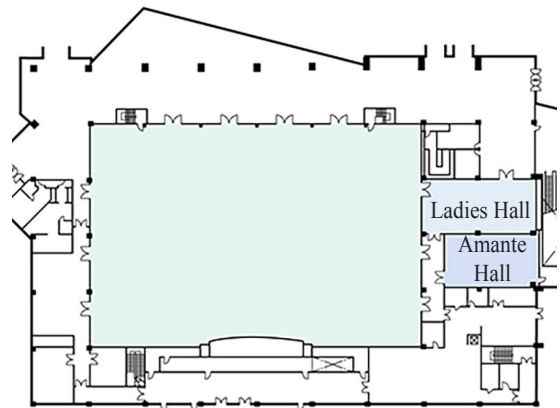
1F (Joyful Hall, Happy Hall) / 2F (Ladies Hall, Amante Hall)

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1F



2F



Keynote Speeches

January 18 (Tuesday), 2022

09:00 ~ 10:15

Chair : Wook-Shin Han, Postech, Korea

Keynote Speech 1 : Re-configuring data practices for Intelligent, Reliable and Responsible decision-making systems

Speaker : Timos Sellis, Visiting Research Scientist, Meta Platforms, Inc. (formerly known as Facebook)

Adjunct Professor, School of Science, Computing and Engineering Technologies, Swinburne University of Technology, Australia



Abstract : In this talk we will focus on how data management practices need to be re-configured in order to support Intelligent, Reliable and Responsible decision-making systems. To maximise the benefits of AI while at the same time mitigating or even preventing its risks, the international community recently began promoting the concept of Trustworthy AI (TAI) as a foundation behind such systems. TAI is based on the idea that trust builds the foundation of societies, communities, economies, and sustainable development, and that therefore individuals and societies will only ever be able to harness the full potential of AI, if trust can be established in the development, deployment, and use of this technology.

TAI is characterized by being lawful, ethical, as well as socially and technically robust. In order to achieve this, the realisation of TAI demands the fulfilment of the seven core requirements by technical and non-technical means: (#1) support of human agency and oversight, (#2) be technically robust and safe, (#3) provide privacy and data governance, (#4) be transparent, (#5) support diversity, non-discrimination and fairness, as well as (#6) societal and environmental wellbeing, and (#7) provide accountability [1]. Adjusting data management practices to achieve the above is an interesting challenge.

Bio : Timos Sellis is a Research Scientist at Meta Platforms, Inc. (formerly known as Facebook, USA) and an Adjunct Professor at Swinburne University of Technology (Australia), where between 2016 and 2020 he was a Professor and the Director of the Data Science Research Institute. He got his Diploma degree in Electrical Engineering in 1982 from the National Technical University of Athens (NTUA), Greece. In 1983 he got the M.Sc. degree from Harvard University (USA) and in 1986 the Ph.D. degree from the University of California at Berkeley (USA), both in Computer Science. He has been in the past a faculty member at the University of Maryland (USA, 1986-92), the National Technical University of Athens (Greece, 1992-2013), and RMIT University (Australia, 2013-2016). Prof. Sellis was also the Director of a new research institute he founded in Greece, the Institute for the Management of Information Systems (IMIS) of the "Athena" Research Center (www.imis.athena-innovation.gr) between 2007 and 2013.

His research interests include big data, data streams, graph data management, data integration, and spatio-temporal database systems. He has published over 300 articles in refereed journals and international conferences in the above areas, has over 17,600 citations to his work and has participated and coordinated several national and international research projects.

Prof. Sellis is a recipient of the prestigious Presidential Young Investigator (PYI) award given by the President of USA to the most talented new researchers (1990), and of the VLDB 1997 10 Year Paper Award in 1997 (awarded to the paper

Keynote Speeches

published in the proceedings of the VLDB 1987 conference that had the biggest impact in the field of database systems in the decade 1987-97). He was the president of the National Council for Research and Technology of Greece (2001-2003). In November 2009, he was awarded the status of IEEE Fellow, for his contributions to database query optimization, and spatial data management, and in November 2013 the status of ACM Fellow, for his contributions to database query optimization, spatial data management, and data warehousing. In March 2018 he received the IEEE TCDE Impact Award, for contributions to database systems research and broadening the reach of data engineering research.

January 19 (Wednesday), 2022

09:15 – 10:30

Chair : Se-Young Yun, KAIST, Korea

Keynote Speech 2 : Trusted Database Technology: A Foundation for Enabling Digital Trust

Speaker : Prof. Beng Chin Ooi, Professor, Department of Computer Science, National University of Singapore, Singapore



Abstract : The advancement of technologies has caused many organizations to re-strategize and adopt digital transformation. Along with it, transactions and interactions between organizations have been digitized. However, digitalization is creating the dependency of society on increasingly complex, interconnected systems and networks, which increases our exposure to various threats such as loss of data, loss of control over the software systems and networks, mistrust due to ill-intended contents and actions, misuse of technology and so on. To bootstrap trust and support secure data sharing, cross-institution transactions and business in the digital world, various technologies are needed to empower cross-institutional collaboration with increasing trust through secure communication, transfer and exchange of digital documents and assets, verifiability, and auditability. Trusted database technology is foundational to supporting digital trust. It is required to not only ensure privacy, integrity of data, but also of the computation on the data. The design space for trustworthy database systems is vast, and there is no one-size-fit-all solution. I shall discuss design and implementation issues and requirements of a flexible trustworthy database system and our works in this area.

Bio : Beng Chin is Lee Kong Chian Centennial Professor and NGS faculty member at the National University of Singapore (NUS), an adjunct Chair Professor at Zhejiang University, China, and the director of NUS AI Innovation and Commercialization Centre at Suzhou, China. He obtained his BSc (1st Class Honors) and PhD from Monash University, Australia, in 1985 and 1989 respectively. He is a fellow of the ACM, IEEE, and Singapore National Academy of Science (SNAS). Beng Chin serves as a non-executive and independent director of ComfortDelgro, a transportation company, and AIDigi Holdings, a Fintech company.

Beng Chin's research interests include database systems, distributed and blockchain systems, and large scale analytics, in the aspects of system architectures, performance issues, security, accuracy and correctness. He works closely with the industry (eg. NUHS, Jurong Health, Tan Tok Seng Hospital and Singapore General Hospital on healthcare analytics and prediabetes prevention), and exploits IT for efficiency in various application domains, including healthcare, finance and

Keynote Speeches

smart city.

Beng Chin was the recipient of ACM SIGMOD 2009 Contributions award, a co-winner of the 2011 Singapore President's Science Award, the recipient of 2012 IEEE Computer Society Kanai award, 2013 NUS Outstanding Researcher Award, 2014 IEEE TCDE CSEE Impact Award, 2016 China Computer Federation (CCF) Overseas Outstanding Contributions Award, and 2020 ACM SIGMOD EF Codd Innovation Award. He was a recipient of VLDB'14 and VLDB'19 Best Paper awards, and SIGMOD 2020 Research Highlight award.

Beng Chin has served as a PC member for international conferences such as ACM SIGMOD, VLDB, IEEE ICDE, WWW, and SIGKDD, and as Vice PC Chair for ICDE'00,04,06, PC co-Chair for SSD'93 and DASFAA'05, PC Chair for ACM SIGMOD'07, Core DB PC chair for VLDB'08, and PC co-Chair for IEEE ICDE'12, IEEE Big Data'15, BOSS'18, IEEE ICDE'18, Industry track of VLDB'19, BCDL'19 and ACM SoCC'20. He has served as the President of VLDB Endowment (2014-2017), and editor-in-chief of IEEE Transactions on Knowledge Engineering (2008-2012), Elsevier Journal of Big Data Research (2014-2016), and ACM/IMS Transactions on Data Science (2018-2021).

Tutorials

January 18 (Tuesday), 2022

10:30 – 12:15

Tutorial 1 : Machine Learning on Graphs

Speaker : Prof. Chang Young Park, KAIST, Korea



Abstract : Graphs are data structures that express the connection relationships between individuals, and are widely used to express various phenomena in real life. Representative examples include user's social networks, knowledge graphs, molecular structure graphs, protein-protein interaction graphs, and gene graphs. In order to improve the performance of graph-based machine learning models, it is essential to learn the representation of nodes and edges in consideration of the structure of the graph.

To this end, with the recent development of deep learning technology, machine learning techniques for graph analysis are in the spotlight.

This tutorial aims to provide an introduction to the basics of recent advances in machine learning on graphs. More specifically, I will mainly discuss about recent machine learning techniques to learn representations of nodes in various types of graph, including homogeneous, multi-aspect, attributed, and heterogeneous graph. Moreover, I will introduce interesting applications of graph machine learning. This tutorial is self-contained and designed for introductory and intermediate audiences. No special prerequisite knowledge is required to attend this tutorial.

Bio : Chanyoung Park is an assistant professor in the Dept. of Industrial and Systems Engineering and Graduate School of AI at KAIST. He received his Ph.D from the Dept. of Computer Science and Engineering at POSTECH in 2019. Before joining KAIST, he was a postdoctoral research fellow in the Dept. of Computer Science at University of Illinois at Urbana-Champaign. His research focuses on developing graph-based machine learning methodologies and their applications, including graph representation learning, user behavior analysis, graph neural networks for chemistry/bioinformatics, and etc.

Tutorials

January 18 (Tuesday), 2022

13:15 – 15:00

Tutorial 2 : Multi-resolution Graph Analysis for Graphical Model Selection and Graph Classification

Speaker : Prof. Won Hwa Kim, POSTECH, Korea



Abstract :

1. Topic of the tutorial

- Title: Multi-resolution Graph Analysis for Graphical Model Selection and Graph Classification
- Target audience: Whoever interested in graph data analysis (in Neuroimaging)
- Prerequisite: basic knowledge in Linear Algebra

2. Outline

1. Introduction to Multi-resolution (Basics of signal transform, spectral graph theory, graph signal processing)
 - A Wavelet Tour of Signal Processing 3rd Edition, Stephane Mallat, 2009 (<https://doi.org/10.1016/B978-0-12-374370-1.X0001-8>)
 - Wavelets on Graphs via Spectral Graph Theory, Hammond et al., Applied and Computational Harmonic Analysis, 2011
2. Latent Graphical Model Selection via Multi-resolution Analysis
 - Latent variable graphical model selection via convex optimization, Chandrasekaran et al., The Annals of Statistics, 2012
 - Latent Variable Graphical Model Selection using Harmonic Analysis: Applications to the Human Connectome Project (HCP), Kim et al., Computer Vision and Pattern Recognition (CVPR), 2017
3. Learning Multi-resolution Representation for Human Connectome Classification
 - Learning Multi-resolution Graph Edge Embedding for Discovering Brain Network Dysfunction in Neurological Disorders, Ma et al., Information Processing in Medical Imaging (IPMI), 2021
 - Enriching Statistical Inferences on Brain Connectivity for Alzheimer's Disease Analysis via Latent Space Graph Embedding, Ma et al., International Symposium on Biomedical Imaging (ISBI), 2020

Bio :

1. Name: Won Hwa Kim
2. Affiliation: Graduate School of AI / Computer Science and Engineering at POSTECH
Computer Science and Engineering at the University of Texas at Arlington
3. Email: wonhwa@postech.ac.kr
4. Bio: Dr. Won Hwa Kim is an Assistant Professor in Graduate School of AI / CSE at POSTECH, CSE at the University of Texas at Arlington (currently on leave). He obtained his Ph.D in Computer Sciences from University of Wisconsin - Madison in 2017, M.S. in Robotics from KAIST in 2010 and B.S. in Information and Communication Engineering from Sungkyunkwan University in 2008. Prior to joining academia, he worked as a researcher in Data Science team at NEC Labs., America in 2017. He focuses on interdisciplinary research that crosses cores in Computer Vision, Machine Learning and Neuroscience, developing novel methods for analyses of data in non-Euclidean spaces and their applications in Image Analysis including Neuroimaging. His research has been supported by several US federal agencies such as USDOT, NIH and NSF, and he is an NSF CRII awardee.
5. Background in the tutorial area: Dr. Kim's research work on graph analysis has been published in top-tier AI conferences such as NIPS, CVPR, ICCV, ECCV, MICCAI, ISBI as well as in high impact journals such as TPAMI, NeuroImage, NeuroImage: Clinical and Brain Connectivity.

Workshops

The Third International Workshop on Conceptual Modeling for Big Data and Smart Computing (Conceptual modeling 2022)

January 17 (Monday), 2022
Daegu, Korea

Location: Online & Offline (Joyful Hall)

Organizers

- Tok Wang Ling (National University of Singapore, Singapore)
- Il-Yeol Song (Drexel University, USA)
- Wookey Lee (Inha University, Korea)

Program

10:30 – 12:00, January 17 (Monday), 2022

Session 1: Keynote Speech I

Chair: Il-Yeol Song, Drexel University, USA

Introductory Talk

Il-Yeol Song (Drexel University, USA)

Conceptual Modeling View on Relational Databases vs Big Data and Machine Learning

Tok Wang Ling (Singapore National University, Singapore)

13:20 – 14:50, January 17 (Monday), 2022

Session 2: Issues on Language-based Conceptual Modeling

Chair: Youngbum Hur, Inha University, Korea

Name-Ethnicity Classification Using Machine Learning Techniques

Youngbum Hur (Inha University, Korea)

Compressing deep graph convolution network with multi-staged knowledge distillation

Junghun Kim, Jinhong Jung and U Kang (Seoul National University, Korea)

Attentive Self-Attention for Translation in Natural Language Processing Model

Ubaydullo Asatullaev, Wookey Lee, Suan Lee, Mukhiddin Toshpulatov and Arousha Haghghian Roudsari (Inha University, Korea)

15:00 – 17:00, January 17 (Monday), 2022

Session 3: Issues on Image-based Conceptual Modeling

Chair: Hyeonjoon Moon, Sejong University, Korea

Graph-based approach for Human Actions recognition from Video

Quan Nguyen Le and Hyeonjoon Moon (Sejong University, Korea)

Transformer Networks for Trajectory Classification

Keywoong Bae, Suan Lee and Wookey Lee (Inha University, Korea)

Tracking Untrained Objects Based On Optical Flow Approach

George Jung Yup Rhee, Suan Lee and Wookey Lee (Inha University, Korea)

New Style Mirror Image Using Generative Adversarial Network

Sujin Lee (Sejong University, Korea)

17:10 – 18:30, January 17 (Monday), 2022

Session 4: Keynote Speech II

Chair: U Kang, Seoul National University, Korea

On the Performance Impact of Using JSON, Beyond Impedance Mismatch

Alberto Abello (Universitat Politècnica de Catalunya, Spain)

The First International Workshop on Artificial Intelligence in Biomedicine and Healthcare (AI-BioHealth 2022)

January 17 (Monday), 2022

Location: Online & Offline (Happy Hall)

Organizers

- Sun Kim (Seoul National University, Korea)
- Giltae Song (Pusan National University, Korea)

Workshops

Program

13:30 – 18:00, January 17 (Monday), 2022

Session 1

Chair: Giltae Song (Pusan National University)

(Invited talk) Toward fusion of ICT and healthcare

Presenter: Dongchul Cha (Naver Corp)

Multi-Scale Curriculum Learning For Efficient Automatic Whole Slide Image Segmentation

Dong Un Kang and Se Young Chun (Seoul National University)

Differentiating Parkinsonian Syndromes using Distinctive Brain Iron Accumulation Patterns in SWI

Yun Soo Kim, Jea Hyeok Lee, and Jin Kyu Gahm (Pusan National University)

Brain Volume Prediction from SNP network with Semi-Supervised Regression

Dong-gi Lee, Hyun Woong Roh, Myungjun Kim, Na-Rae Kim, Sang Joon Son, Chang Hyung Hong, and Hyunjung Shin (Ajou University)

Transformer-based embedding applied to classify bacterial species using sequencing reads

Ho-Jin Gwak and Mina Rho (Hanyang University)

Break (20 min)

Session 2

Chair: Mina Rho (Hanyang University)

Improved Binding Affinity Prediction Using Non-Covalent Interactions and Graph Integration

Junseok Choe, Keonwoo Kim, Minjae Ju, Sumin Lee, and Jaewoo Kang (Korea University)

(Invited talk) Large-scale Deep Learning for Electronic Health Record

Presenter: Edward Yoonjae Choi (KAIST)

Embedding of FDA Approved Drugs in Chemical Space Using Cascade Autoencoder with Metric Learning

Jungwoo Kim, Sangsoo Lim, Sangseon Lee, Changyun Cho, and Sun Kim (Seoul National University)

A denoised embedding space of genetic perturbation using Deep Metric Learning

Minjae Ju, Sanghoon Lee and Jaewoo Kang (Korea University)

Aptamer-protein interaction prediction using Transformer

Incheol Shin and Giltae Song (Pusan National University)

The Second International Workshop on Big Data and Smart Computing for Military and Defense Technology (BigDefense 2022)

January 17 (Monday), 2022

Daegu, Korea

Location: Online

Organizers

• Young-guk Ha (Konkuk University, Korea)

• Chang-eun Lee (ETRI, Korea)

Program

13:20 – 17:20, January 17 (Monday), 2022

Distributed Graph Matching Network for Deep Situation Recognition

Jaek Baek, Seungwon Do, Sungwoo Jun and ChangEun Lee

Design of Weighted Usability Model for Elderly/Young and General/Military User Groups

Athiruj Poositaporn, Athita Onuean and Hanmin Jung

Graph Summarization for Human-Understandable Visualization towards CVE Data Analysis

Ji Sun Park, Mingu Kang, Sungryoul Lee and Dong-Kyu Chae

Battlefield Environment Design for Multi-agent Reinforcement Learning

Seungwon Do, Jaek Baek, Sungwoo Jun and ChangEun Lee

Fast and Accurate Deep Learning-Based Framework for 3D Multi-Object Detector for Autonomous Vehicles

Hoang Duy Loc and Gon-Woo Kim

Space-Time Multilayer Model for Battlefields Recognition

ChangEun Lee, Jaek Baek, Seungwon Do, Sungwoo Jun and Young-guk Ha

Understanding Subjective Clinical Practices Using Machine Learning on Big Data of Clinical Assessment

Jeong-Ho Park, Hyung-Soon Park, Yushin Kim, Kwang-Jae Lee, Yong-Soon Yoon, Si Hyun Kang and Heesang Kim

Workshops

The Fifth International Workshop on Dialog Systems (IWDS 2022)

January 17 (Monday), 2022
Daegu, Korea

Location: Online

Organizers

- Chae-Gyun Lim (KAIST, Korea)
- Young-Jun Lee (KAIST, Korea)
- Ho-Jin Choi (KAIST, Korea)

Program

Session 1: Invited Talk

Chair: Ho-Jin Choi (KAIST, Korea)

13:25 – 14:15, January 17 (Monday), 2022

The Power of Visualization: English Language Learners in Transformation

Presenter: So-Yeon Ahn (KAIST, Korea)

Session 2: Paper Presentations

Chair: Chae-Gyun Lim (KAIST, Korea)

14:25 – 17:35, January 17 (Monday), 2022

The Text Analysis Framework for Interactive Statistical Classification Service

Kyo-Joong Oh, Ho-Jin Choi, Jinwon Kim, Wonsoek Cha and Kyungmin Lim

Boosting Adapter Transfer Learning via Weak Parameter Sharing

June Suk Choi, Chae-Gyun Lim and Ho-Jin Choi

Exploring the Repetition Problem in Empathetic Dialogue Generative Model

Young-Jun Lee and Ho-Jin Choi

Data Stream Classification by Using Stacked CARU Networks

Ka-Hou Chan and Sio-Kei Im

Toward Robust Response Selection Model for Cross Negative Sampling Condition

Nyoungwoo Lee and Ho-Jin Choi

Knowledge Management Approach for Memory Components Based on User-friendly Conversational System

Chae-Gyun Lim, Dongkun Lee, Young-Jun Lee and Ho-Jin Choi

Checklist for Validating Trustworthy AI

Seung-Ho Han and Ho-Jin Choi

The Second International Workshop on Science & Technology Policy for Bigdata & AI Computing (STP Comp 2022)

January 18 (Tuesday), 2022
Daegu, Korea

Location: Online & Offline (Ladies Hall)

Organizers

- Joo-Yeon Lee (Ajou University, Korea)
- Ki-Chan Park (KIRD, Korea)

Program

13:15 – 15:15, January 18 (Tuesday), 2022

Invited Talk

Chair: Myoung-Sug Chung, Ajou University, Korea

Welcoming Address

Young-seo Song (Ajou University, Korea)

Workshops

Invited talk1: SPIS and SPRU - Exploring the field of 'Science Policy and Innovation Studies (SPIS)' and a brief Introduction to SPRU

Jeremy Kent Hall (University of Sussex, UK)

Invited talk2: Tangible Interaction based on Kansei, Design and Brain Sciences

S.h. Serena Lee (University of Tsukuba, Japan)

Invited talk3: Daily life of science, imagination of the future, emergency of talented person

Bong-Rak Lee (KIRD, Korea)

Invited talk4: Establishing a data-based R&D ecosystem for science and technology innovation

Chi-Hoon Song (STEPI, Korea)

15:15 – 15:55, January 18 (Tuesday), 2022

Session 1

Chair: Mi-Young Park, Ajou University, Korea

Special Talk1: Open innovation at the national level: towards a global innovation system

Sung-Joo Lee (Seoul National University, Korea)

Special Talk2: A study on business productivity improvement considering hyper-automation

Jin-Deuk Ko (Kitech, Korea), Young-Geun Hyun (SK, Korea)

15:55 – 17:40, January 18 (Tuesday), 2022

Session 2

Chair: Young-Seo Song, Ajou University, Korea

Research Paper1: Korean economic growth factor analysis with Total Factor Productivity

Kuk-Jin Jang, Dasran Kim, and Joo-Yeoun Lee (Ajou University, Korea)

Research Paper2: Analysis of Factors Affecting the Transfer of Educational Training of Science and Technology Personnel

Mi-ri Kim, Sehyeok Jeon, Joo-Sung Hwang, Seo-Yong Kim (Ajou University)

Research Paper3: Analysis on the implementation plan to increase the joint utilization rate of national research facilities and equipment

Sehyeok Jeon, Joo-Sung Hwang, Mi-ri Kim, Seo-Yong Kim (Ajou University, Korea)

Research Paper4: Estimates of the Image Quality in Accordance with Radiation dose for Pediatric Imaging using Deep Learning CT: A Phantom Study

Pil-Hyun Jeon (Yonsei University), Myung-Ae Chung, Dae-Hong Kim (Eulji University)

International Workshop on Medical Big Data & Smart Hospital 2022

January 18 (Tuesday), 2022
Daegu, Korea

Location: : Online & Offline (Amante Hall)

Organizers

- Seungpil Jung (Yeungnam University, Korea)

Program

15:15 – 17:00, January 18 (Tuesday), 2022

GE Healthcare Digital Pathway

Roger Juwon Lee (GE Healthcare, Korea)

AI in Healthcare

Jongsu Jeon (Microsoft, Korea)

CLOUD Based Healthcare Business

Sangwoo Lee (Naver Cloud, Korea)

Intelligent virtual workers in cognitive hospital

Sungmoon Jeong (Kyungpook National University, Korea)

Recent ICT adopted in Healthcare

Dukyong Yoon (Yonsei University Korea)

New strategy to increase the usability of big data in Korea's healthcare industry

Daegwan Kim (Daegu-Gyeongbuk Medical Innovation Foundation, Korea)

Workshops

The Third International Workshop on Social Health in the Era of Big Data (SHEBD 2022)

January 19 (Wednesday), 2022
Daegu, Korea

Location: Online & Offline (Ladies Hall)

Organizers

- Min Song (Yonsei University, Korea)
- Joonhwan Lee (Seoul National University, Korea)
- Youngjin Yoo (Case Western Reserve University, USA)

Program

13:15 – 15:00, January 19 (Wednesday), 2022

Session 1: Keynote Speech

Chair: Min Song (Yonsei University, Korea)

The Evolution of Social Health Research Topics: A Data-Driven Analysis

Chanung Park (Yonsei University, Korea)

15:15 - 17:00, January 19 (Wednesday), 2022

Session 2: Extended Abstracts

Chair: Min Song (Yonsei University, Korea)

Predicting Metabolic Syndrome Severity Score with Deep Learning: Analysis of the 2015-2019 National Health Insurance Service Medical Examination Dataset

Minji Kang (Yonsei University, Korea)

Automatic Prediction of Sleep Disorder by Mining Reddit

Soobin Lee, Seongdeok Kim, Juhee Lee, Youngsoo Ko and Jiyeong Han (Yonsei University, Korea)

Building a multi-layered knowledge graph for hypothesis generation in biomedical field

Hyunchul Cho, Chaemin Song, Seongdeok Kim, Jeeyoung Yoon, Jiwon Kim and Dongin Nam (Yonsei University, Korea)

Identifying influential factors of Acknowledgments to Measure Impact on Academic Performance

Go Eun Heo (Yonsei University, Korea)

Predicting Bioage for Korean using Machine Learning Techniques and KNHANES Data

Minjoo Kim, Sumin Lee and Jeonghwan Lee (Yonsei University, Korea)

Building a Biomedical Classification Model: Using a Corpus Annotated with Semantic Relation

Yeawon Lee, Yuri Ahn, Heeyoung Kim, A.F. Syafiandini and Yejin Park (Yonsei University, Korea)

17:15 - 19:00, January 19 (Wednesday), 2022

Session 3: Poster Presentations

Chair: Min Song (Yonsei University, Korea)

Neural Representation in mPFC Reveals Hidden Selfish Motivation in White Lies

Juyoung Kim and Hackjin Kim (Korea University, Korea)

Can SNS fill the environmental value-action gap?: using goal-frame to study the impact of online experiential campaigns on pro-environmental behaviour

So-youn Jang (Seoul National University, Korea)

Man Holds Back, Woman Doubts: Neuroticism Affects Attitude Toward Investment in Marriage

Jeong Woo Kim, Hanbyeol Lee, Jeong Eun Cheon and Young-Hoon Kim (Yonsei University, Korea)

Examining the Effects of COVID-19 on Children and Families in South Korea

Jung Yun Lee, Minjung Cha, Hyun-joo Song (Yonsei University, Korea) and Wooyeol Lee (Chungbuk National University, Korea)

Workshops

The Second International Workshop on VOICE Artificial Intelligence (VOICE AI 2022)

Note that this is closed session for member only

January 19 (Wednesday), 2022
Daegu, Korea

Location: Online & Offline (Joyful Hall)

Organizers

- Ho-Young Lee (Seoul National University, Korea)
- Wookey Lee (Inha University, Korea)
- Suan Lee (Semyung University, Korea)

Program

13:15 – 15:00, January 19 (Wed.), 2022

Session 1: Spoken Language Modeling for VOICE AI

Chair: Ho-Young Lee, Seoul National University, Korea

Evaluation of Korean learners' English rhythm proficiency

Ho-Young Lee (Seoul National University, Korea)

Development of a voice audio replacement for video content using Tacotron2

Youngho Kim (mayfarmsoft, Korea), Dami Cho, Taeseong Song, Sunghyun Kim and Young-Kuk Kim (Chungnam National University, Korea)

Development of surface registration method with the predicted point cloud of occipital lobes

Taeyong Sim (Sejong University, Korea)

15:15 – 17:00, January 19 (Wed.), 2022

Session 2: Sensor and Signal Recognition for VOICE AI

Chair: Hogun Park, Sungkyunkwan University, Korea

Voice Recognition based on EMG and EGG Signals using deep learning techniques

Shan Ullah and Deok-Hwan Kim (Inha University, Korea)

sEMG-based gesture recognition with deep neural networks

Heesoo Jung, Soyoung Lee and Hogun Park (Sungkyunkwan University, Korea)

WPBERT: Mixing word and phonetic representation for spoken language modeling

Jaeyeon Kim, Injune Hwang and Kyogu Lee (Seoul National University, Korea)

17:15 – 19:00, January 19 (Wed.), 2022

Session 3: Mechanism for VOICE AI

Chair: Chang-Jae Chun, Sejong University, Korea

The Voice Generation Mechanism from a Medical Point of View

Jeong-Seok Choi (Medical School, Inha University, Korea)

Deep Learning-based Voice Pathology Identification for Phrases

Jong Bub Lee and Hyun-Gyu Lee (Medical School, Inha University, Korea)

Deep learning based channel signal estimation for wireless energy harvesting networks

Chang-Jae Chun (Sejong University, Korea)

Paper Sessions

Session 1: Big Data Application

10:30 – 12:15, January 18 (Tuesday), 2022

Chair: Jimwei Liu, Florida A&M University, USA

Optimizing performance of Real-Time Big Data stateful streaming applications on Cloud [short]

Amit Gupta and Sushant Jain (Hughes Systique, India)

Structural Features of Public Bicycle Transportation Networks over Times of the Day: The Case of Seoul Public Bicycle [short]

Il-Jung Seo and Jaehee Cho (Kyonggi University, Korea)

Reducing Hadoop 3.x energy consumption through Energy Efficient Ethernet [regular]

Jorgi Luiz Bolonhezi Dias, Leandro Batista De Almeida and Luiz Carlos Pessoa Albini (Federal University of Parana, Brazil)

Fregata: A Low-Latency and Resource-Efficient Scheduling for Heterogeneous Jobs in Clouds [regular]

Jimwei Liu (Florida A&M University, USA)

Session 2: Machine Learning I

13:15 – 15:00, January 18 (Tuesday), 2022

Chair: Young-Koo Lee, Kyung Hee University, Korea

Aggregating the Gaussian Experts' Predictions via Undirected Graphical Models [short]

Hamed Jalali and Gjergji Kasneci (University of Tuebingen, Germany)

Semi-supervised network regression with Gaussian Process [short]

Myungjun Kim, Dong-gi Lee and Hyunjung Shin (Ajou University, Korea)

Canopy-K-means Combined Collaborative Filtering Using RMSE-minimization [short]

Sao-I Kuan, Jongmin Kim, Oh-Heum Kwon and Ha-Joo Song (Pukyong National University, Korea)

Border K-Means Clustering Algorithm for One Dimensional Data [regular]

Ryan Froese, James Klassen, Carson Leung and Tyler Loewen (University of Manitoba, Canada)

Session 3A: Machine Learning II

15:15 – 17:00, January 18 (Tuesday), 2022

Chair: Neha Bharill, Mahindra University Hyderabad, India

Cross-Attention Model for Multi-modal Bio-Signal Processing [short]

Heesoo Son, Sangseok Lee and Sael Lee (Ajou University, Korea)

Distributed Classification Model of Streaming Tweets based on Dynamic Model Update [regular]

Min-Seon Kim and Hyuk-Yoon Kwon (Seoul National University of Science and Technology, Korea)

A Greedy Algorithm for Generating Malware Signatures Based on Association [short]

Woo-Jin Joe and Hyong-Shik Kim (Chungnam National University, Korea)

A Novel Scalable Feature Extraction Approach for COVID-19 Protein Sequences and their Cluster Analysis with Kernelized Fuzzy Algorithm [short]

Preeti Jha, Aruna Tiwari, Neha Bharill, Milind Ratnaparkhe, Om Prakash Patel, Nilagiri Harshith and Soundarya Lahari Solasa (Mahindra University Hyderabad, India)

Session 3B: Machine Learning III

15:15 – 17:00, January 18 (Tuesday), 2022

Chair: Ahmet Tugrul Bayrak, Huawei Technologies, Turkey

Analysis of the relationship between regulation and R&D efficiency using quantile regression [short]

Moonju Nam, Jooyeoun Lee, Kukjin Jang and Dasran Kim (Ajou University, Korea)

Spread Movement Prediction for Pairs Trading with High-Frequency Limit Order Data [regular]

Chiu-Hung Su, Hsu-Chao Lai, Wen-Yueh Shih, Jun-Zhe Wang and Jiun-Long Huang (National Yang Ming Chiao Tung University, Taiwan)

Predicting the Patterns of Technology Convergence in Defense Technologies [short]

Kyung-Soo Kim and Nam-Wook Cho (Wips Co., Korea)

Earthquake patterns identification based on network centrality measurements and earthquake type [regular]

Yanti Rusmawati (Institut Teknologi Bandung, Indonesia)

Session 4A: Deep Learning

17:15 – 19:00, January 18 (Tuesday), 2022

Chair: Arousha Haghghian Roudsari, Inha University, Korea

Learning without Lazy Weights [regular]

Dong-gi Lee, Junhee Cho, Myungjun Kim, Sunghong Park and Hyunjung Shin (Ajou University, Korea)

DNN based Speaker Meta Information Estimation using Privacy-Preserving Speech Data [short]

Kwangje Baeg, Youngsub Han and Byoung-Ki Jeon (LG Uplus Inc., Korea)

Federated Learning convergence on IID features via optimized local model parameters [short]

Shan Ullah and Deok-Hwan Kim (Inha University, Korea)

A Survey on Deep Learning Advances and Emerging Issues in Pneumonia and COVID19 Prediction [regular]

Nursultan Makhanov, Nguyen Anh Tu and Kok-Seng Wong (Vin University, Vietnam)

Paper Sessions

Session 4B: Graph Mining

17:15 – 19:00, January 18 (Tuesday), 2022

Chair: Lee Sael, Ajou University, Korea

Subgraph Matching on Multiple Graph Streams [short]
 Thi Thu Van Duong, Dolgorsuren Batjargal and Young Koo Lee (Kyung Hee University, Korea)

Graph Neural Networks with Stability and Discernability [regular]
 Jong Ho Jhee and Hyunjung Shin (Ajou University, Korea)

Benchmarking Deep Graph Models for Large Molecular Generation [regular]
 Jinjun Park and Sael Lee (Ajou University, Korea)

Visualization Method for the Spreading Curve of COVID-19 in Universities using GNN [regular]
 Huaze Xie, Da Li, Yuanyuan Wang and Yukiko Kawai (Kyoto Sangyo University, Japan)

Panel 1

11:00 – 12:15, January 19 (Wednesday), 2022

Chair: Steven Euijong Whang, KAIST, Korea

Data-centric approaches for Trustworthy AI
 Panelists: Tok Wang Ling (National University of Singapore, Singapore)
 Carson Leung (University of Manitoba, Canada)
 Neha Bharill (Mahindra University, India)
 Won Hwa Kim (POSTECH, Korea)
 Giltae Song (Pusan National University, Korea)

Session 5A: Data Mining I

13:15 – 15:00, January 19 (Wednesday), 2022

Chair: Carson Leung, University of Manitoba, Canada

Mining Evolving Spatial Co-location Patterns from Spatio-temporal Databases [regular]
 Yunqiang Ma, Junli Lu and Dazhi Yang (Southwest Forestry University, China)

Pattern Recognition Search: An Advancement Over Interpolation Search [short]
 Shahpar Yilmaz, Yasir Nadeem and Syed A. Mehdi (India)

Mining Co-location Patterns in Incremental Spatial Database [regular]
 Ye-In Chang, Chen-Chang Wu and Ching-Yi Yen (Dept. of Computer Science and Engineering, Taiwan)

An Efficient Distributed Spatiotemporal Index for Parallel Top-k Frequent Terms Query [regular]
 Hong Van Le and Atsuhiko Takasu (National Institute of Informatics, Japan)

Session 5B: Data Mining II

13:15 – 15:00, January 19 (Wednesday), 2022

Chair: Md Golam Morshed, Kyung Hee University, Korea

Sparsity-Aware Reachability Computation for Massive Graphs [short]
 Sung-Soo Kim, Young-Min Kang and Young-Kuk Kim (ETRI, Korea)

A Datasets Model for Knowledge Discovery [short]
 Yun-Young Hwang, Su-Mi Shin, Jin-Hee Yuk and Youngsoo Moon (KISTI, Korea)

Stable Low Latency Logging for Epoch-based In-memory Database [short]
 Masahiro Tanaka and Hideyuki Kawashima (Keio University, Japan)

TPC-C Benchmarking for ElasticSearch [short]
 Jaekyu Lee and Hyuk-Yoon Kwon (Seoul National University of Science and Technology, Korea)

Session 6A: Natural Language Processing

15:15 – 17:00, January 19 (Wednesday), 2022

Chair: Hiroaki Ohshima, University of Hyogo, Japan

Sequential Alignment Methods for Ensemble Part-of-Speech Tagging [regular]
 Jeesu Jung and Sangkeun Jung (Chungnam National University, Korea)

Drug Repositioning with Disease-Drug Clusters from Word Representations [regular]
 Dong-gi Lee, Myungjun Kim and Hyunjung Shin (Ajou University, Korea)

Literature Representation using Character Networks based on Sentiment Analysis [short]
 Myeonggeon Park, Sunghong Park and Hyunjung Shin (Ajou University, Korea)

Author Verification Model Using Random Walk Features from Chat Messages [regular]
 Da Young Lee and Cho Hwan Gue (Pusan National University, Korea)

Session 6B: Image Processing I

15:15 – 17:00, January 19 (Wednesday), 2022

Chair: Young-Seob Jeong, Chungbuk National University, Korea

Prediction of Defect Coffee Beans Using CNN [short]
 Ji-Yoon Lee and Young-Seob Jeong (Soonchunhyang University, Korea)

A Cross-age Kinship Verification Scheme Using Face Age Transfer Model [regular]
 Hyeonwoo Kim, Hyungjoon Kim, Bumyeon Ko and Eenjun Hwang (Korea University, Korea)

Privacy-preserving of human identification in CCTV data using a novel Deep Learning-based method [short]
 Mukhiddin Toshpulatov, Arousha Haghghian Roudsari, Ubaydullo

Paper Sessions

Asatullaev, Wookey Lee and Suan Lee (Inha University, Korea)

Multi-label Facial Emotion Recognition Using Korean Drama Movie Clips [regular]

Heeryon Cho, Woo-Kyu Kang, Younsoo Park, Sungeu Chae and Seong-joon Kim (Chung-Ang University, Korea)

Session 7A: Time Series

17:15 – 19:00, January 19 (Wednesday), 2022

Chair: Jinho Kim, Kangwon National University, Korea

Comparative Methods for Personalized Customer Churn Prediction with Sequential Data [short]

Ahmet Tuğrul Bayrak (Ata Technology Platforms, Turkey)

Explaining Anomalies in Industrial Multivariate Time-series Data with the help of eXplainable AI [regular]

Sarthak Manas Tripathy, Ashish Chouhan, Marcel Dix, Arzam Kotriwala, Benjamin Klöpper and Ajinkya Prabhune (SRH Hochschule Heidelberg, Germany)

Urban Event Detection from Spatio-temporal IoT Sensor Data Using Graph-Based Machine Learning [regular]

Daeyoung Park and In-Young Ko (KAIST, Korea)

An AI-based Alarm Prediction in Industrial Process Control Systems [short]

Marcel Dix, Ashish Chouhan, Madhushree Sinha, Akhil Singh, Suraj Bhattarai, Shweta Narkhede and Ajinkya Prabhune (SRH Hochschule Heidelberg, Germany)

Session 7B: Image Processing II

17:15 – 19:00, January 19 (Wednesday), 2022

Chair: Heeryon Cho, Chung-Ang University, Korea

Manipulating Neural Network Block for Robust Image Segmentation [regular]

Hyungjoon Kim, Hyeonwoo Kim, Seongkuk Cho and Eenjun Hwang (Korea University, Korea)

MNSSD: A Real-time DNN based Companion Image Data Annotation using MobileNet and Single Shot Multibox Detector [regular]

Md Golam Morshed and Young-Koo Lee (Kyung Hee University, Korea)

Feature Fusion for Leaf Image Classification [short]

Moeri Okuda and Hiroaki Ohshima (University of Hyogo, Japan)

Latent Feature Separation and Extraction with Multiple Parallel Encoders for Convolutional Autoencoder [short]

Jaehyun Kim, Myungjun Kim and Hyunjung Shin (Ajou University, Korea)

Session 8A: Smart Computing

09:15 – 11:00, January 20 (Thursday), 2022

Chair: Ha-Joo Song, Pukyong National University, Korea

Presto Pack: Resource-aware Workload Placement for Higher Performance and Reliability [regular]

Cem Cayiroglu, Zhenyun Zhuang and Biswapesh Chattopadhyay (Facebook, United States)

Optimizing the Page Hotness Measurement with Re-Fault Latency for Tiered Memory Systems [regular]

Taehyung Lee and Young Ik Eom (Sungkyunkwan University, Korea)

Accelerating Concurrency Control with Active Thread Adjustment [regular]

Kosei Masumura, Takashi Hoshino and Hideyuki Kawashima (Keio University, Japan)

Medication Monitoring from Accelerometer Data through a Series of Medication Actions Using Neural Network for Medication Adherence Evaluation [short]

Chihiro Ikeda and Daigo Misaki (Kogakuin University, Japan)

Session 8B: Recommender System

09:15 – 11:00, January 20 (Thursday), 2022

Chair: Keejun Han, ETRI, Korea

Adaptive Autoencoders Exploiting Content Preference for Accurate Recommendation [short]

Dong-Kyu Chae, Jung Ah Shin and Sang-Wook Kim (Hanyang University, Korea)

Product Recommendation Based on Embeddings: People Who Viewed This Product Also Viewed These Products [short]

Ulukbek Attokurov, Okan Kaya and Mehmet Selman Sezgin (Hepsiburada, Turkey)

Multi-relational Stacking Ensemble Recommender System using Cinematic Experience [short]

Cheonsol Lee, Donghee Han, Seungwoo Choi, Keejun Han and Mun Yong Yi (KAIST, Korea)

Collaborative Filtering on Bipartite Graphs using Graph Convolutional Networks [short]

Minkyu Kim and Jinho Kim (Kangwon National University, Korea)

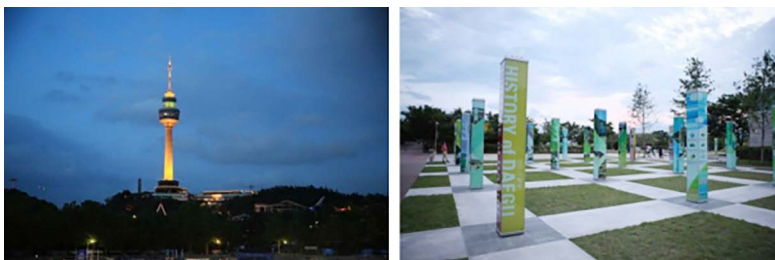
Travel Information

Modern Culture Alley



Modern Culture Alley is the place where visitors can experience both modern times and present day of Daegu. There are many historical spots of Daegu so it is more meaningful. Modern Culture Alley composed with five different courses and each course has its concept. Each course normally takes about 2 hours. On the website you can apply a tour guide service for free.

Daegu Tower (83 Tower)



The Daegu Tower (height 202m) is located on European style theme park inside Duryu Park. It is a tourist attraction where you can look over the whole city of Daegu. The traditional architectural beauty of the tower has been reproduced and its Dabotop pagoda shape has been recreated. The west part of Daegu Tower has Duryusan, Seongdangmot and Daegu Culture and Arts Center where the tourists could enjoy various performances, exhibitions and events.

Seomun Market



Seomun Market is the biggest market in Daegu and the market boasts a long history and a deep-rooted tradition. Recently, Seomun Market opened a night market and now it became one of Daegu's major public and tourist destinations, the market offers a wide range of merchandise and street food and serves as a venue for various public performances and art exhibitions. Seomun Night Market opens every night from 19:30 to 24:00 (or until 24:30 on Friday and Saturday nights).

Travel Information

Suseong Lake



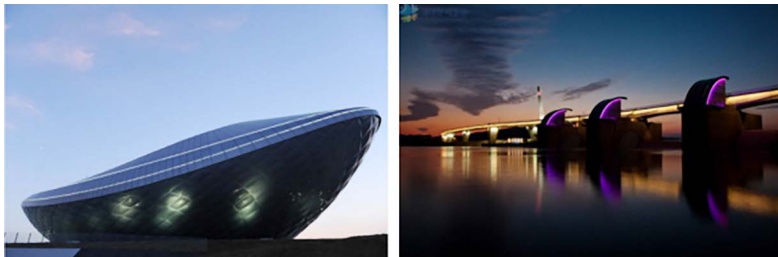
Suseong Lake is the best ecotourism place with a nice path including a wooden boardwalk, allowing for visitors to take a relaxing stroll around the lake or join in a pedalo. Surrounding lights give the lake a warm, comfortable feelings. Also, the installed visual music fountain provides nighttime performances twice a day from May to October and it provides unique attractions.

Palgongsan



It is the famous mountain popular with both of Daegu citizens and visitors from other areas. Palgongsan is a beautiful mountain every 4 seasons so it is good place for hiking and driving anytime. There is famous buddha named Gatbawi and it has a nationwide reputation as a relief and faithful place where one wishes can be heard when praying to Gatbawi Buddha.

Gangjeong Goryeongbo Weir (The ARC)



There is a unique building at the point where the Nakdonggang river and Kumhohang rivers meet. It is also called as the Four Rivers Cultural Center and it is a different exhibition space as a building and an artwork. The ARC is designed by Hani Rashid, who has won a prestigious award for world-class architectural design. It is also a good place to ride a bicycle and it became the rising sightseeing spot because of its beautiful night view.

Hope to have big success of
IEEE BigComp 2022 in Daegu!

Safe & Smart Business Events in Daegu



Water Industry



Medical Industry



Future Automobile
Industry



Energy Industry



Robotics Industry

+



Smart City

Integrating Online and Offline Convention Infrastructure

EXCO and Kyungpook National University area were designated as “Daegu Business Events District” by the Korean Ministry of Culture, Sports, and Tourism in 2020. The region is now fully equipped with the newest online and offline convention infrastructure.

Daegu CVB launches new “Hybrid Convention Support Services”

This services for online and offline conventions are being increased and strengthened for post-COVID business events.

Contact Info

Ms. Kwon, Myeonghui
Bidding and Hosting Support Representative
053.382.5228 | kkum30@daegucvb.com