

**The 25th Pacific-Asia Conference on Knowledge
Discovery and Data Mining (PAKDD-2021),
May 11-14, 2021, Delhi, India.**
<https://www.pakdd2021.org>

(Note: PAKDD2021 conference is held in a online mode.
All timings are as per Indian Standard Time (IST) (UTC + 05:30))

**I. Workshop Program Schedule
(May 11, 2021, Tuesday)**

<https://www.pakdd2021.org/Programme/Workshops>

May 11, 2021 (Tuesday)			
Time Duration	Hall 1	Hall 2	Hall 3
9.00-12.30	MLMEIN- Workshop on Machine Learning for MEasurement Informatics	Second Pacific Asia Workshop on Game Intelligence & Informatics (GII)	The First Workshop & Shared Task on Scope Detection of the Peer Review Articles
12:30-13:30	Lunch break		
14:00-17:30	Workshop on Smart and Precise Agriculture	Data Assessment and Readiness for Artificial Intelligence	Artificial Intelligence for Enterprise Process Transformation (AI4EPT)

II. Main Conference Program Schedule (May 12-14, 2021, Wednesday to Friday)

May 12, 2021 (Wednesday)					
Time Duration	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5
08.30-09.00	Inauguration				
09.00-10.00	Keynote by Subbarao Kambhampati (Arizona State University) (Hall 1) Title: Getting AI Agents to Interact and Collaborate with Us on Our Terms Chair: R.K.Agrawal (Jawaharlal Nehru University)				
10.00-10.15	Tea break				
10.15-12.30	Research Session # 10 (Data Mining of Specialized Data – III)	Research Session # 22 (Text Analytics - I)	Research Session # 24 (Deep Learning - I)		Tutorial Session # 1 Chair: Naresh Manwani (IIIT Hyderabad) (3 hours) 10:15 to 13:30
12.30-13.30	Lunch break				
13.30-14.30	Keynote by Sunita Sarawagi (IIT Bombay) (Hall 1) Title: Machine Learning as a Service: The Challenges of Serving a Million client Distributions Chair: Kamal Karlapalem (IIIT Hyderabad)				
14.30-16.15	Research Session # 1 (Applications of Knowledge Discovery - I)	Research Session # 5 (Classical Data Mining - I)	Research Session # 19 (Representation Learning and Embedding - I)	Research Session # 8 (Data Mining of Specialized Data - I)	Tutorial Session # 2 Chair: B.Ravindran (IIT Madras)
16.15-16.30	Tea break				
16.30-18.00	Research Session # 13 (Data Mining of Specialized Data - VI) 5 papers	Research Session # 14 (Data Mining Theory and Principles - I)	Research Session # 4 (Applications of Knowledge Discovery - IV)		Tutorial Session # 2 (Continued) Chair: B. Ravindran (IIT Madras)
18.00-19.00	Industry Keynote by Vijay Saraswat (Global Head of Artificial Intelligence R&D, Goldman Sachs) (Hall 1) Title: Computer Science 2.0, and its impact on Finance Chair: Srikanta Bedathur (IIT Delhi)				

May 13, 2021 (Thursday)					
Time Duration	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5
09.00-10.00	Keynote by Masaru Kitsuregawa (Director General, National Institute of Informatics, University of Tokyo) (Hall 1) Chair: P. Krishna Reddy (IIIT Hyderabad)				
10.00-10.15	Tea break				
10.15-12.30	Research Session # 2 (Applications of Knowledge Discovery - II)	Research Session # 9 (Data Mining of Specialized Data - II)	Research Session # 17 (Recommender Systems - I)	Competition Session	
12.30-13.30	Lunch break				
13.30-14.30	Keynote by Fabrizio Sebastiani (Director of Research, ISTI-CNR, Italy) (Hall 1) Chair: Jaideep Srivastava (University of Minnesota)				
14.30-16.15	Research Session # 3 (Applications of Knowledge Discovery - III)	Research Session # 6 (Classical Data Mining - II)	Research Session # 20 (Representation Learning and Embedding - II)		Tutorial Session # 3 Chair: Naresh Manwani (IIIT Hyderabad)
16.15-16.30	Tea break				
16.30-18.00	Research Session #	Research Session # 23	Research Session # 26	Research	Tutorial Session # 3

	15 (Data Mining Theory and Principles - II)	(Text Analytics - II)	(Speech and Text Analytics)	Session # 7 (Classical Data Mining -III)	(continued) Chair: Naresh Manwani (IIIT Hyderabad)
18.00 -19.00	Industry Keynote by Hamsa Balakrishnan (Massachusetts Institute of Technology) (Hall 1) Title: Building a Smarter Air Transportation System: From Research to Practice Chair: Gautam Shroff (TCS Research)				

May 14, 2021 (Friday)					
Time Duration	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5
09.00-10.00	Keynote by Lada Adamic (Director, Computational Social Science, Facebook) (Hall 1) Title: The Geography of Social Ties Chair: Jaideep Srivastava (University of Minnesota)				
10.00-10.15	Tea break				
10.15-12.30	Research Session # 16 (Recommender Systems - II) 7 papers	Research Session # 11 (Data Mining of Specialized Data - IV) 7 papers	Research Session # 12 (Data Mining of Specialized Data - V) 7 papers		
12.30-13.30	Lunch break				
13.30-14.30	Most influential paper talk by Leman Akoglu, Mary McGlohon and Christos Faloutsos (Hall 1) Title: Anomaly Detection in Graphs - Past, Present and Future. Chair: Vikram Pudi, (IIIT Hyderabad)				
14.30-16.15	Research Session # 18 (Recommender Systems - III) 6 papers	Research Session # 21 (Representation Learning and Embedding - III) 6 papers	Research Session # 25 (Deep Learning - II) 6 papers		
16.15-16.30	Concluding Remarks (Hall 1)				

Program Details

1. Keynote talks

Date and Time (Hall 1)	Details
-------------------------------	----------------

Keynote 1
(May 12, 2021,
09.00-10.00)



Prof. Subbarao Kambhampati, Dept. of Computer Science & Engineering, Arizona State University.

Title: Getting AI Agents to Interact and Collaborate with Us on Our Terms

Abstract:

As AI technologies enter our everyday lives at an ever increasing pace, there is a greater need for AI systems to work synergistically with humans. This requires AI systems to exhibit behavior that is explainable to humans. Synthesizing such behavior requires AI systems to reason not only with their own models of the task at hand, but also about the mental models of the human collaborators. At a minimum, AI agents need approximations of human's task and goal models, as well as the human's model of the AI agent's task and goal models. The former will guide the agent to anticipate and manage the needs, desires and attention of the humans in the loop, and the latter allow it to act in ways that are interpretable to humans (by conforming to their mental models of it), and be ready to provide customized explanations when needed. Using several case-studies from our ongoing research, I will discuss how such multi-model reasoning forms the basis for explainable behavior in human-aware AI systems.

Biography:

Subbarao Kambhampati is a professor of computer science at Arizona State University. Kambhampati studies fundamental problems in planning and decision making, motivated in particular by the challenges of human-aware AI systems. He is a fellow of Association for the Advancement of Artificial Intelligence, American Association for the Advancement of Science, and Association for Computing machinery, and was an NSF Young Investigator. He was the president of the Association for the Advancement of Artificial Intelligence, trustee of International Joint Conference on Artificial Intelligence, and a founding board member of

	<p>Partnership on AI. Kambhampati’s research as well as his views on the progress and societal impacts of AI have been featured in multiple national and international media outlets. He writes a column on the societal and policy implications of the advances in Artificial Intelligence for The Hill. He can be followed on Twitter @rao2z.</p>
<p>Keynote 2 (May 12, 2021, 13.30-14.30)</p>	<div data-bbox="381 558 880 1056" data-label="Image"> </div> <p>Prof. Sunita Sarawagi , Institute Chair Professor, Computer Science and Engineering, IIT Bombay.</p> <p>Title: Machine Learning as a Service: The Challenges of Serving a Million client Distributions</p> <p>Abstract:</p> <p>Increasing concentration of big data and computing resources has resulted in widespread adoption of machine learning as a service (MLaaS). The best-performing NLP, speech, image and video recognition tools are now provided as network services. In such cases, the labeled data used for training may be proprietary, and different clients may be interested in different data distributions often violating the core ML generalizability assumption of the training and test distributions matching. This talk will discuss techniques for reducing such mismatch. We discuss ways in which the server could exploit multi-client training data to train ML models for better generalization to client distributions without an explicit parameter adaptation. Next, we call for a more detailed specification of a server’s accuracy where accuracy is not a single number, but a surface over interpretable client data properties. Such an interpretable surface would allow a</p>

client to make more informed choice of a model from the burgeoning marketplace of cloud services. We discuss methods for lightweight and heavyweight adaptation of a blackbox service in the context of NLP models for topic adaptation, and speech models for accent adaptation.

Biography:

Sunita Sarawagi researches in the fields of databases and machine learning. She is institute chair professor at IIT Bombay. She got her PhD in databases from the University of California at Berkeley and a bachelors degree from IIT Kharagpur. She has also worked at Google Research (2014-2016), CMU (2004), and IBM Almaden Research Center (1996-1999). She was awarded the Infosys Prize in 2019 for Engineering and Computer Science, and the distinguished Alumnus award from IIT Kharagpur. She has several publications including best paper awards at ACM SIGMOD, VLDB, ICDM, NIPS, and ICML conferences. She has served on the board of directors of the ACM SIGKDD and VLDB foundation. She was program chair for the ACM SIGKDD 2008 conference, research track co-chair for the VLDB 2011 conference and has served as program committee member for SIGMOD, VLDB, SIGKDD, ICDE, and ICML conferences, and on the editorial boards of the ACM TODS and ACM TKDD journals.

Keynote 3
(May 13, 2021,
09.00-10.00)


Masaru Kitsuregawa, University of Tokyo.



Prof. Masaru Kitsuregawa, National Institute of Informatics (NII), Director General / The University of Tokyo.

Biography:

Director General of National Institute of Informatics and Professor at Institute of Industrial Science, the University of Tokyo. Received Ph.D. degree from the University of Tokyo in 1983. Served in various positions such as President of

	<p>Information Processing Society of Japan (2013–2015) and Chairman of Committee for Informatics, Science Council of Japan (2014-2016) . He has wide research interests, especially in database engineering. He has received many awards including ACM SIGMOD E. F. Codd Innovations Award, IEICE Contribution Award, IPSJ Contribution Award, 21st Century Invention Award of National Commendation for Invention, Japan and C&C Prize, IEEE Innovation in Societal Infrastructure Award and Japan Academy Award. In 2013, he awarded Medal with Purple Ribbon and in 2016, the Chevalier de la Legion D’Honneur. He is a fellow of ACM, IEICE and IPSJ, CCF honorary member, and IEEE Life Fellow.</p>
<p>Keynote 4 (May 13, 2021, 13.30-14.30)</p>	<p>Fabrizio Sebastiani, ISTI-CNR, Italy.</p>  <p>Prof. Fabrizio Sebastiani, Istituto di Scienza e Tecnologie dell'Informazione, Consiglio Nazionale delle Ricerche (ISTI-CNR), Italy.</p> <p>Biography:</p> <p>Fabrizio Sebastiani is a Senior Researcher at the Institute for the Science and Technologies of Information of the National Council of Research (ISTI-CNR), Italy. He has also been a Principal Scientist at the Qatar Computing Research Institute, and an Associate Professor at the Department of Pure and Applied Mathematics of the University of Padova. His research interests lie at the intersection of information retrieval and machine learning, with particular emphasis on text mining, text classification, information extraction, opinion mining, quantification, and their applications in fields such as medical informatics, market research, and customer relationships management.</p>

Keynote 5
 (May 14, 2021,
 09.00-10.00)



Dr. Lada Adamic, Director, Computational Social Science, Facebook.
 Title: The Geography of Social Ties

Abstract: This talk will describe how social networks crisscross the world. Geographic patterns emerge from historical borders, as well as migrations past and present. They correlate with myriad different phenomena, from trade to COVID cases. Furthermore, having social connections to regions experiencing changes, for example in COVID cases, is tied to corresponding responses in social distancing, beyond what is expected based on changes within one's own region.

Biography:

Lada Adamic leads the Computational Social Science Team at Facebook. Prior to joining Facebook she was an associate professor at the University of Michigan's School of Information and Center for the Study of Complex Systems. Her research interests center on information dynamics in networks. She has received an NSF CAREER award, a University of Michigan Henry Russell award, the 2012 Lagrange Prize in Complex Systems.

2. Industry keynote talks

Date and Time (Hall 1)	Details
Industry Keynote 1 May 12, 2021, 18.00-19.00,	



Dr. Vijay Saraswat, Global Head of Artificial Intelligence R&D, Goldman Sachs.

Title: Computer Science 2.0, and its impact on Finance

Abstract:

Software is eating the world. (2011)

AI is eating software. (2020)

In the last decade, deep learning has revolutionized AI and is now well on its way to changing the face of Computer Science, in arguably the most profound change since the advent of the stored program computer. Fundamentally, CS is moving from the study of well-specified, algorithmizable functions over crisp, discrete data to the study of non-linear functions over noisy, uncertain, high-dimensional manifolds. The functions are such that no human can write down their code — when was the last time you wrote out a program with 175 billion variables? Instead, humans can specify a program sketch (program with holes) in such a way that standard algorithms can operate on (input, output) information about the function and find values for the holes which yield an approximation of the desired function. Notably, these techniques can be made to work not just for the transformational view of computing (as outlined above) but also the reactive view, where the goal of the computation is to maintain an interaction with an environment (via reinforcement learning).

Through Computer Science, these ideas are now changing many other fields, from engineering, to medicine and health-care to financial services — an industry founded on the generation, dissemination, analysis of information, an ideal arena for AI/ML. We will illustrate with examples from the analysis of financial documents, and quantitative finance.

Biography:

Vijay is the Global Head of Artificial Intelligence R&D at Goldman Sachs. He leads a team of researchers and engineers building knowledge extraction, representation and reasoning, and quantitative finance frameworks for the firm. He joined the firm in 2017 and was named managing director in 2019. Over his 30+ year research career, Vijay has been a member of the Research Staff at the Xerox Palo Alto Research Center, AT&T Research, and the IBM TJ Watson Research Center. He has also taught at many universities world-wide, including Penn State and Columbia U.

Vijay has published more than 100 papers, collaborating with more than 100 researchers, across logic, constraints, concurrency, programming languages and AI. He received the 1989 ACM Doctoral Dissertation Award, a (20 year retrospective) Best Paper award for his work on Concurrent Constraint Programming, and the (10 year retrospective) 2005 Most Influential OOPSLA Paper Award for his (team's) work on the X10 programming language.

Vijay has a BTech (Electrical Engineering) from the Indian Institute of Technology Kanpur (1982), and an MS and PhD (Computer Science) from Carnegie Mellon University (1985, 1989).

Industry
Keynote 2
May 13, 2021,
18.00 -19.00



Hamsa Balakrishnan, Associate Department Head, Aeronautics and Astronautics, Massachusetts Institute of Technology.

	<p>Title: Building a Smarter Air Transportation System: From Research to Practice</p> <p>Abstract:</p> <p>The modern air transportation system is a complex human-cyber-physical network that is critical to global travel and commerce. As the demand for air transport has grown, so have congestion, delays, and the resultant environmental impacts. With emerging types of demand, we need new control techniques, and perhaps even redesign of some parts of the system, in order to prevent cascading delays and excessive pollution.</p> <p>In this talk, I will present examples of how we can develop control and optimization algorithms for air transportation systems that are grounded in real-world data, implement them, and test them in both simulations and in the field. These algorithms help us address several challenges, including resource allocation with multiple stakeholders, robustness in the presence of operational uncertainties, and developing decision-support tools that account for human decision-makers and their behavior.</p> <p>Biography:</p> <p>Hamsa Balakrishnan is the William E. Leonhard (1940) Professor and the Associate Department Head of Aeronautics and Astronautics at the Massachusetts Institute of Technology (MIT). She received her PhD from Stanford University, and a B.Tech. from the Indian Institute of Technology Madras. Her research is in the design, analysis, and implementation of control and optimization algorithms for cyber-physical infrastructures, with an emphasis on air transportation. She is the co-founder and chief scientist of Lumo, a Boston-based travel startup.</p> <p>Prof. Balakrishnan is an Associate Fellow of the American Institute of Aeronautics and Astronautics (AIAA), and the recipient of an NSF CAREER Award, the inaugural CNA Award for Operational Analysis, the AIAA Lawrence Sperry Award, the American Automatic Control Council's Donald P. Eckman Award, the MIT AIAA Undergrad Advising and Undergraduate Teaching Awards, and multiple best paper awards.</p>
--	--

3. Influential paper talk

Date and Time (Hall 1)	Details
------------------------	---------

Most influential paper talk,
May 14, 2021, 13.30-14.30

(The following paper has been awarded as the most influential paper in during PAKDD2020. The authors were requested to make a presentation.

“Leman Akoglu , Mary McGlohon , Christos Faloutsos, "OddBall: Spotting Anomalies in Weighted Graphs," PAKDD 2010”.)



Title: Anomaly Detection in Graphs - Past, Present and Future.

Speakers: Leman Akoglu, Mary McGlohon and Christos Faloutsos

Abstract:

In 2010, OddBall proposed a method to find unusual nodes in a large graph. First we present its main idea; then we list follow up work on node, subgraph, and graph level anomaly detection and representation learning; and conclude with future directions.

Biography

Leman Akoglu: Leman Akoglu is the Heinz College Dean's Associate Professor of Information Systems at Carnegie Mellon University. Her research focuses on pattern discovery and anomaly mining, with applications to fraud and event detection. She is a recipient of the SDM/IBM Early Career Data Mining Research award (2020), National Science Foundation CAREER award (2015) and US Army Research Office Young Investigator award (2013). Her research has won 7 publication awards (SIAM SDM 2019, ECML PKDD 2018, SIAM SDM 2016, SIAM SDM 2015, ADC 2014, PAKDD 2010, and ECML PKDD 2009).

Mary McGlohon: Mary McGlohon is a Site Reliability Engineer at Google, focused on productionization of large-scale machine learning systems and data pipelines. She completed her PhD in Machine Learning at Carnegie Mellon University in 2010, with thesis entitled "Structural Analysis of Networks: Observations and Applications".

Christos Faloutsos: Christos Faloutsos is a Professor at Carnegie Mellon University. He is an ACM Fellow, and the recipient of the Fredkin Professorship in Artificial Intelligence (2020); he has received the Research Contributions Award in ICDM 2006, the SIGKDD Innovations Award (2010), and the PAKDD Distinguished Contributions Award (2018). His research interests include large-scale data mining with emphasis on graphs and time sequences; anomaly detection, tensors, and fractals.

4. Tutorial talks

Date and Time	Tutorial talks
<p>Tutorial 1, May 12, 2021, Hall 5, (3 hours) 10:15 to 13:30</p>	<p>Title: DL4Code: Deep Learning for Programming, Compilers & Code Generation</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Sandya Mannarswamy, Independent NLP Researcher. • Dibyendu Das, Senior Principal Engineer, Intel. • Ramakrishna Upadrasta, IIT-Hyderabad. <p>Abstract:</p> <p>Over the last few years, machine learning, in particular deep learning, has made great strides and has been successfully deployed in many real-world applications such as healthcare, customer care, finance, autonomous driving etc. One of the recent applications of deep learning has been in the area of software development and programming itself. Availability of large datasets of source code from various open-source platforms such as Github, StackOverflow etc have facilitated the application of ML/DL/NLP techniques to source code and its related artefacts, in various areas such as source code search, analysis and maintenance, compilers, program repair, automatic code generation etc. Also, DL-based encoding and optimization has been finding increasing traction among the compiler development and research community. However, work in this space has been largely siloed inside the software engineering and compiler research community and has mostly remained outside the focus of the mainstream ML/DL/NLP/KDD research conference venues. This tutorial is intended to provide an in-depth overview of DL4Code at a major ML/DL/KDD research venue such as PAKDD so as to focus research attention and collaboration between SE and ML research communities in this emerging area. This tutorial provides a detailed overview of ML/DL/NLP techniques in programming, compilers and automatic source code generation covering models, applications and datasets. While there has been considerable progress in this area, a number of challenges still remain, especially in applying probabilistic techniques to applications which require deterministic correctness, interpretability and verifiability such as in compilers and automatic code generation. We discuss the various challenges involved in applying ML/DL/NLP techniques to compilers/code generation and also outline some of the future research directions. We believe that having this tutorial at PAKDD would be an important first step in facilitating increased research focus from mainstream ML/NLP community on this topic.</p> <p>Biographies of Speakers</p>

	<p>Sandya Mannarswamy is an independent NLP researcher. She was previously a senior research scientist at Conduent Labs India in the NLP research group. She holds a Ph.D. in computer science from Indian Institute of Science, Bangalore. Her research interests span natural language processing, machine learning and compilers. Her research career spans over 20 years, at various R&D labs, including Hewlett Packard Ltd, IBM Research etc. She has co-organized a number of workshops including workshops at International Conference on Data Management, Machine Learning Debates workshop at ICML-2018 etc. She holds a number of publications and patents.</p> <p>Dr. Dibyendu Das is a Senior Principal Engineer at Intel where he works at the confluence of LLVM based compilation technology and AI. He has been associated with compiler technology, parallel computing and performance projections in several companies including IBM, HPE, AMD and Motorola for close to 25 years. He was the architect of AMD's AOCC compiler for its Zen-sever line that has held world-record SPEC scores in the last few years. Dr Das has been part of the program committee of several conferences and has organized sponsored workshops and LLVM BoFs. Dr. Das holds a PhD in Computer Science from IIT Kharagapur.</p> <p>Dr. Ramakrishna Upadrasta is an Asst. Professor at IIT Hyderabad (IITH) where he has been since 2014. He leads the Scalable Compilers research group at IITH. He holds a Ph.D in Computer Science from University of Paris-Sud, France, and INRIA, Paris. He has M.S from Colorado State University, USA, an M.Tech in Computer Science from Indian Institute of Science (IISc), Bangalore and a B.E in Electrical and Electronics Engineering from Andhra University, Visakhapatnam. Prior to joining IITH, he was a visiting scientist at IISc, a research engineer at INRIA, Paris, a research scholar at Lawrence Livermore National Laboratories, USA, and a compiler engineer in Hewlett Packard. He has helped organize Student Research Symposiums at HiPC as well as polyhedral compilation workshops at HiPEAC.</p>
<p>Tutorial 2, May 12, 2021, Hall 5 (14:30 to 18.00)</p>	<p>Title: Fairness in Healthcare Machine Learning: A Practical Guide</p> <ul style="list-style-type: none"> • Muhammad Aurangzeb Ahmad, Department of Computer Science, University of Washington Tacoma; • Carly Eckert, Department of Epidemiology, University of Washington; • Christine Allen, KenSci Inc, Seattle; • Vikas Kumar, KenSci Inc, Seattle; • Juhua Hu, Department of Computer Science, University of Washington Tacoma; • Ankur Teredesai, Department of Computer Science, University of Washington Tacoma; • Arpit Patel, Department of Bioinformatics and Medical Education,

University of Washington;

Abstract:

The issue of bias and fairness in healthcare has been around for centuries. With the integration of AI in healthcare the potential to discriminate and perpetuate unfair and biased practices in healthcare increases many folds. The tutorial focuses on the challenges, requirements and opportunities in the area of fairness in healthcare AI and the various nuances associated with it. Healthcare as a multi-faceted systems level problem that necessitates careful consideration of different notions of fairness. In this tutorial we addresses this problem in the context of deploying machine learning models in the real world, and various challenges and opportunities that it presents the machine learning community.

Biographies of Speakers

Ankur Teredesai is a Professor in the Department of Computer Science at University of Washington Tacoma, and founder and director of the Center for Data Science at University of Washington. He is also the founder and CTO of KenSci, a vertical machine learning/AI healthcare informatics company focused on risk prediction in healthcare. Professor Teredesai has published more than 70 research papers in top machine learning and data mining conferences like KDD, AAI, CIKM, SDM, PKDD etc. He is also the information officer of KDD.

Muhammad Aurangzeb Ahmad is a Research Scientist and Principal Data Scientist at KenSci Inc. a Machine learning/AI healthcare informatics company focused on risk prediction in healthcare. He is also Affiliate Associate Professor in the Department of Computer Science at University of Washington Tacoma. He has had academic appointments at University of Washington, Center for Cognitive Science at University of Minnesota, Minnesota Population Center and the Indian Institute of Technology at Kanpur. He has published more than 50 research papers in top machine learning and data mining conferences KDD, AAI, SDM, PKDD etc.

Dr. Arpit Patel is a General Surgeon who graduated from residency training at The Brooklyn Hospital Center in NY. He is currently finishing the Clinical Informatics fellowship training program in the Department of Bioinformatics and Medical Education at the University of Washington in Seattle. Throughout his medical career, he has taken an interest in various aspects of healthcare informatics, including developing documentation and clinical decision support tools in the EHR and the theory and

	<p>clinical applications of machine learning.</p> <p>Vikas Kumar is a Data Scientist working at KenSci. In this role, Vikas works with a team of data scientists and clinicians to build consumable and trustable machine learning solutions for healthcare. His focus is in building explainable models in healthcare and application of recommendation systems in clinical settings. Vikas holds a Ph.D. with a major in Computer Science and minor in Statistics from the University of Minnesota, Twin Cities. He has worked on modeling and application of recommendation systems in various domains, such as media, location, and healthcare. His focus has been to interpret the balance users seek between known (or familiarity) and unknown (or novel) items to build adaptive recommendations. Prior to his Ph.D., he completed his Bachelor's at the National Institute of Technology, India and worked as a software engineer in Microsoft India.</p> <p>Dr. Carly Eckert MD, MPH, is the Medical Director of Clinical Informatics at KenSci Inc. In this role, Dr. Carly leads and works with doctors and data scientists to identify patterns in patient data to predict risk that can cost-effectively improve care outcomes. Prior to her role at KenSci, Dr. Carly was the associate medical director for catastrophic care at the Department of Labor and Industries for the state of Washington. Dr. Carly trained in General Surgery at Vanderbilt University Medical Center and in Occupational and Environmental Medicine and Preventive Medicine at the University of Washington (UW). She has also co-authored several publications on topics related to general surgery, occupational health, and occupational injury</p>
<p>Tutorial 3, May 13, 2021, Hall 5, (3 hours) 14:30 to 18:00</p>	<p>title: Recent Advances in Pairwise Preference Learning.</p> <ul style="list-style-type: none"> • Arun Rajkumar, Indian Institute of Technology, Madras; • Dev Yashpal Sheth, Indian Institute of Technology, Madras. <p>Abstract: Analysing preferences using pairwise ordered data has a long history and has been core to several research areas including machine learning, statistics, operations research, game theory, social choice and theoretical computer science with a range of applications including ad-placement, voting, sports ranking, multi-criteria decision making among several others. Research in each of the areas mentioned above have developed independently, typically, without a lot of interaction among them. The broad aim of this tutorial is to overview the exciting recent advances in preference learning with a focus on pairwise preference learning in passive, active, bandit and social choice related settings.</p>

	<p>Biographies of Speakers</p> <p>Arun Rajkumar is an assistant professor in the Department of Computer Science and Engineering at the Indian Institute of Technology, Madras. Prior to joining IIT Madras, he was a research scientist at Xerox research centre, India. His research areas include machine learning with a specific focus on ranking, statistical learning theory and sequential decision making. He has actively published in top AI/ML venues including ICML, NeurIPS, COLT, AAMAS, UAI, AAI, etc.</p> <p>Dev Yashpal Sheth is an undergraduate researcher in the Department of Computer Science and Engineering at the Indian Institute of Technology, Madras. He has worked as a research assistant at the Center for Data Science, New York University. His research interests include active/adaptive learning, deep learning and reinforcement learning and he has published in related areas.</p>
--	---

5. PAKDD2021 Alibaba competition

<TBD>

6. Workshops

Workshop Name	Program
<p>1. MLMEIN- Workshop on Machine Learning for MEasurement Informatics</p> <p>(May 11, 2021, 9:00AM to 12:30PM)</p>	<p>(URL: http://www.ar.sanken.osaka-u.ac.jp/MLMEIN/2021/)</p> <p>9:00AM(IST) [12:30PM(JST)] Opening 9:05AM(IST) [12:35PM(JST)] Convolutional Neural Network to Detect Deep Low-Frequency Tremors from Seismic Waveform Images Ryosuke Kaneko, Hiromichi Nagao, Shin-ichi Ito, Kazushige Obara and Hiroshi Tsuruoka 9:35AM(IST) [13:05PM(JST)] Classification Bandits: Classification Using Expected Rewards as Imperfect Discriminators Koji Tabata, Atsuyoshi Nakamura and</p>

	<p>Tamiki Komatsuzaki 10:05AM(IST) [13:35PM(JST)] Hierarchical Topic Model for Tensor Data and Extraction of Weekly and Daily Patterns from Activity Monitor Records Shunichi Nomura, Michiko Watanabe and Yuko Oguma 10:35AM(IST) [14:05PM(JST)] Break 10:45AM(IST) [14:15PM(JST)] Unsupervised Noise Reduction for Nanochannel Measurement using Noise2Noise Deep Learning Takayuki Takaai and Makusu Tsutsui 11:15AM(IST) [14:45PM(JST)] Class Prior Probability Estimation Using Density Ratio from Unlabeled and Contaminated Positive Datasets Takeshi Yoshida and Eitaro Shin'Ya 11:45AM(IST) [15:15PM(JST)] Panel Session Topic: Technical Issues of Measurement Informatics Panelists: Hiromichi Nagao (Univ. Tokyo), Koji Tabata (Hokkaido Univ.), Shunichi Nomura (Waseda Univ.), Takayuki Takaai (Osaka Univ.) and Takeshi Yoshida (Osaka Univ.) 12:30AM(IST) [16:00PM(JST)] Closing</p>
<p>2. Second Pacific Asia Workshop on Game Intelligence & Informatics (GII) (May 11, 2021, 9:00 – 12:30)</p>	<p>(URL: https://web.northeastern.edu/guui/gii2021/)</p> <p>09:00 AM – 10:00 AM: Keynote by Prof. Balaraman Ravindran, IIT Madras</p> <p>10:00 AM – 10:30 AM: Invited talk by Dr. Murtuza N Shergadwala, UC Santa Cruz</p> <p>10:30 AM – 11:00 AM: Invited talk by Rukma Talwadker, Games24x7</p> <p>11:00 AM – 11:10 AM: Break</p>

	<p>11:10 AM – 11:50 AM: Invited talk by Dr. Sam Snodgrass, modl.ai</p> <p>11:50 AM – 12:30 PM Invited talk by Dr. Jakub Kowalski, University of Wroclaw</p>
<p>3. The First Workshop & Shared Task on Scope Detection of the Peer Review Articles (May 11, 2021, 9:00 – 12:30)</p>	<p>(URL: https://sdpra-2021.github.io/website/)</p> <p>9:00 AM - 9.45 AM Key Note The future of arXiv and knowledge discovery in open science</p> <p>9:45 AM - 9:55 AM Q&A</p> <p>9:55 AM - 10:00 AM BREAK</p> <p>10:00 AM - 10.45 AM Key Note The case for simplicity: Reasons to embrace simple but effective research contributions</p> <p>10:45 AM - 10:55 AM Q&A</p> <p>10:55 AM - 11:05 AM BREAK</p> <p>11:05 AM - 11:20 AM</p> <p>Identifying Topics of Scientific Articles with BERT-based Approaches and Topic Modeling</p> <p>11:20 AM - 11:35 AM Using Transformer based Ensemble Learning to classify Scientific Articles</p> <p>11:35 AM - 11:40 AM Scholarly Text Classification with Sentence BERT and Entity Embeddings</p> <p>11:40 AM - 11: 55 AM Domain Identification of Scientific Articles using Transfer Learning and Ensembles</p>
<p>4. Workshop on Smart and Precise Agriculture (May 11, 2021, 14.00 – 17.30 PM)</p>	<p>(URL: https://creds.iitpkd.ac.in/wspa)</p> <p>1400 - 1415 Welcome</p>

	<p>1415 - 1445 Keynote Speech Dr. K Srinivas Technology interventions in agriculture to manage biotic and abiotic stresses</p> <p>1500 - 1515 Paper 1 Mohit Agarwal, Suneet Kr. Gupta and K.K. Biswas. Plant Leaf Disease Segmentation using Compressed UNet Architecture</p> <p>1515 - 1530 Paper 2 Tarandeep Singh, Neerja Mittal Garg and S.R.S. Iyengar. Identification of harvesting year of barley seeds using near-infrared hyperspectral imaging combined with convolutional neural network.</p> <p>1530 - 1600 Plenary Talk 1 Dr. Pushpendra P. Singh Genesis of iHub - AWaDH and some outstanding issues in the domain of Agriculture & Water</p> <p>1600 - 1615 Paper 3 Somya Sharma and Snigdhasu Chatterjee. Corn Yield Prediction in US Midwest Using Artificial Neural Networks.</p> <p>1615 - 1630 Paper 4 Bibek Behera, Abinash Sahu, Subhash Kunnath and Pallavi Khatri. HARMONY: A Smart Aquaponics System integrated with Conversational Interface and Internet of Things.</p> <p>1630 - 1645 Paper 5 Bharathi Chaudhury, Vasudha Joshi, S. S. Anand, and Pabitra Mitra Study on Deep Convolutional Neural Networks for Leaf Counting.</p> <p>1645 - 1715 Plenary Talk 2 Dr. Deepak Jaiswal Process-based crop modeling using BioCro with focus on climate change</p> <p>1715 - 1730 Conclusion</p>
<p>5. Data Assessment and Readiness for Artificial Intelligence (May 11, 2021, 14.00 – 17.30 PM)</p>	<p>(URL: http://data-readiness-2021.mybluemix.net/)</p>

6. Artificial Intelligence for Enterprise Process Transformation (AI4EPT) (May 11, 2021, 14.00 – 17.30 PM)	(URL: https://ai4ept-pakdd2021.mybluemix.net/)
	14:00 - 14:10 Opening Remarks
	14:10 - 15:10 Keynote by Prof. Hamid Motahari
	15:10 - 15:30 Paper 1: "ROC Bot: Towards Designing Virtual Command Centre for Energy Management"
	15:30 - 15:45 Coffee Break
	15:45 - 16:45 Keynote by Prof. Marlon Dumas on "Process Mining 2.0: From Insights to Actions"
	16:45 - 17:05 Paper 2: "Digitize-PID: Automatic Digitization of Piping and Instrumentation Diagrams"
	17:05 - 17:30 Closing Remarks and Networking

7. Research sessions

Research Session Id	Session Name (Date, Time, and Hall)	Paper ID	Paper Title
1	Applications of Knowledge Discovery – I (May 12, 2021, 14:30-16:15, Hall 1)	1542	Deep Gaussian Mixture Model on Multiple Interpretable Features of Fetal Heart Rate for Pregnancy Wellness; Yan Kong (Tsinghua University)*; Bin Xu (Tsinghua University); Bowen Zhao (Tsinghua University); Ji Qi (Tsinghua University)
		1452	VOA*: Fast Angle-Based Outlier Detection Over High-Dimensional Data Streams; Vijdan Khalique (University of Tsukuba)*; Hiroyuki Kitagawa (University of Tsukuba)
		1540	Learning Probabilistic Latent Structure for Outlier Detection from Multi-View Data; Zhen Wang (Zhejiang Lab)*; Ji Zhang (University of Southern Queensland); Chenhao Lu (Zhejiang Lab); Yizheng Chen (Zhejiang Lab); Jerry Chun-Wei Lin (Western Norway University of Applied Sciences); Jing Xiao (South China Normal University); R.Uday Kiran (University of Aizu)
		1588	GLAD-PAW: Graph-based Log Anomaly Detection by Position Aware Weighted Graph Attention Network; Yi Wan (HUAWEI TECHNOLOGIES CO., LTD.)*; Yilin Liu (HUAWEI TECHNOLOGIES CO., LTD.); Yujin Wen (HUAWEI TECHNOLOGIES CO., LTD.); Dong Wang (HUAWEI TECHNOLOGIES CO., LTD.)
		1638	CubeFlow: Money Laundering Detection with Coupled Tensors; Xiaobing Sun (Institute of Computing Technology, CAS, China)*; Jiabao Zhang (University of Chinese Academy of Sciences; Institute of Computing Technology); Qiming Zhao (Chongqing University); Shenghua Liu (Institute of Computing Technology, CAS, China); Jinglei Chen

			(CCBFT); Ruoyu Zhuang (CCBFT); Huawei Shen (Institute of Computing Technology, Chinese Academy of Sciences); Xueqi Cheng (Institute of Computing Technology, Chinese Academy of Sciences)
		1737	Unsupervised Boosting-based Autoencoder Ensembles for Outlier Detection; Hamed Sarvari (George Mason University)*; Carlotta Domeniconi (George Mason University); Bardh Prenkaj (Sapienza University of Rome); Giovanni Stilo (Università of L' Aquila)
2	Applications of Knowledge Discovery – II (May 13, 2021, 10:15-12:30, Hall 1)	148	SIGTRAN: Signature Vectors for Detecting Illicit Activities in Blockchain Transaction Networks; Farimah Poursafaei (McGill University)*; Reihaneh Rabbany (McGill University); Zeljko Zilic (McGill University)
		1587	Collaborative Reinforcement Learning Framework to Model Evolution of Cooperation in Sequential Social Dilemmas; Ritwik Chaudhuri (IBM Research - India)*; Kushal Mukherjee (IBM Research India); Ramasuri Narayanam (IBM Research India); Rohith D Vallam (IBM Research - India)
		306	Unsupervised Domain Adaptation for 3D Medical Image with High Efficiency; Chufu Deng (Sun Yat-sen University)*; Kuilin Li (Sun Yat-Sen University); Zhiguang Cheng (Sun Yat-sen university)
		1338	A Hierarchical Structure-Aware Embedding Method for Predicting Phenotype-Gene Associations; Lin Wang (Nankai University); Mingming Liu (Nankai University); Wenqian He (Nankai University); Xu Jin (Nankai University); Yalou Huang (Nankai University); MaoQiang Xie (NanKai University)*
		1440	Autonomous Vehicle Path Prediction using Conditional Variational Autoencoder Networks; Jagadish D N (Indian Institute of Information Technology Dharwad)*; Arun Chauhan (Indian Institute of Information Technology Dharwad); Lakshman Mahto (Indian Institute of Information Technology Dharwad)
		1597	Heterogeneous Graph Attention Network for Small and Medium-sized Enterprises Bankruptcy Prediction; YIZHEN ZHENG (Monash University)*; Vincent C S Lee (Monash University); Zonghan Wu (University of Technology Sydney); Shirui Pan (Monash University)
		1698	Algorithm Selection as Superset Learning: Constructing Algorithm Selectors from Imprecise Performance Data; Jonas Hanselle (Paderborn University)*; Alexander Tornede (Paderborn University); Marcel Wever (Paderborn University); Eyke Hüllermeier (University of Paderborn)
3	Applications of Knowledge Discovery – III (May 13, 2021, 14:30-16:15, Hall 1)	265	Lifelong Learning based Disease Diagnosis on Clinical Notes; Zifeng Wang (Tsinghua-Berkeley Shenzhen Institute, Tsinghua University)*; Yifan Yang (Tencent Jarvis Lab); Rui Wen (Tencent); Xi Chen (Tencent); Shao-Lun Huang (Tsinghua-Berkeley Shenzhen Institute, Tsinghua University); Yefeng Zheng (Tencent)
		1670	Attack Is the Best Defense: A Multi-Mode Poisoning PUF against Machine Learning Attacks; Chia-Chih Lin (National Taiwan University)*; Ming-Syan Chen (National Taiwan University)
		1772	Combining exogenous and endogenous signals with a semi-supervised co-attention network for early detection of COVID-19 fake tweets; Rachit Bansal (Delhi Technological University); William Scott (IIITD); Nidhi . (Accenture Labs, Accenture); Shubhashis Sengupta (Accenture Labs, India); Tanmoy Chakraborty (Indraprastha Institute of Information Technology Delhi (IIIT-D), India)*
		112	Adaptive Graph Co-Attention Networks for Traffic Forecasting; Boyu Li (University of Technology Sydney); Ting Guo (University of Technology, Sydney)*; Yang Wang (UTS); Amir Gandomi (University of Technology, Sydney); Fang Chen (UTS)
		147	Dual-Stage Bayesian Sequence to Sequence Embeddings for Energy Demand Forecasting; Frances Cameron-Muller (Monash University)*; Dilusha Weeraddana (CSIRO); RAGHAVENDRA CHALAPATHY (Data61 CSIRO); Khoa Nguyen (Data61-CSIRO)
		314	AA-LSTM: An Adversarial Autoencoder Joint Model for Prediction of Equipment Remaining Useful Life; dong zhu (National University of Defense Technology); chengkun wu (National University of Defense Technology)*; Chuanfu Xu (National University of Defense Technology); Zhenghua Wang (National University of Defense Technology)
4	Applications of Knowledge Discovery –	1579	Adverse Drug Events Detection, Extraction and Normalization from Online Comments of Chinese Patent Medicines; Zi Chai (*); Xiaojun Wan (Peking University)

	IV (May 12, 2021, 16:30-18:00 Hall 4)	312	Fuzzy World:A Tool Training Agent from Concept Cognitive to Logic Inference; MinZhong Luo (Institute of Information Engineering, Chinese Academy of Sciences)*
		1484	GrabQC: Graph based Query Contextualization for automated ICD coding; Jeshuren Chelladurai (Indian Institute of Technology, Madras)*; Sudarsun Santhiappan (Indian Institute of Technology, Madras); Balaraman Ravindran (Indian Institute of Technology, Madras)
		1532	Sim2Real for Metagenomes: Accelerating Animal Diagnostics with Adversarial Co-Training; Vineela Indla (Oklahoma State University); Vennela Indla (Oklahoma State University); Sai Narayanan (Oklahoma State University); Akhilesh Ramachandran (Oklahoma State University); Arunkumar Bagavathi (Oklahoma State University); Vishalini Laguduva Ramnath (Oklahoma State University); Sathyanarayanan N Aakur (Oklahoma State University)*
		235	TLife-LSTM: Forecasting Future COVID-19 Progression with Topological Signatures of Atmospheric Conditions; Ignacio Segovia (University of Texas at Dallas)*; Huikyo Lee (NASA JPL Caltech); Zhiwei Zhen (University of Texas at Dallas); Rishabh Wagh (University of Texas at Dallas); Yulia R. Gel (The University of Texas at Dallas)
5	Classical Data Mining – I (May 12, 2021, 14:30-16:15 Hall 2)	292	Mining Frequent Patterns from Hypergraph Databases; Md. Tanvir Alam (University of Dhaka); Chowdhury Farhan Ahmed (University of Dhaka)*; md samiullah (University of Dhaka); Carson K. Leung (University of Manitoba)
		310	Discriminating Frequent Pattern based Supervised Graph Embedding for Classification; Md. Tanvir Alam (University of Dhaka); Chowdhury Farhan Ahmed (University of Dhaka)*; md samiullah (University of Dhaka); Carson K. Leung (University of Manitoba)
		1403	Mining Sequential Patterns in Uncertain Databases Using Hierarchical Index Structure; Kashob Kumar Roy (Independent University Bangladesh); Md Hasibul Haque Moon (University of Dhaka); Md Mahmudur Rahman (University of Dhaka); Chowdhury Farhan Ahmed (University of Dhaka)*; Carson K. Leung (University of Manitoba)
		1553	Effective and Adaptive Multi-metric Refined Similarity Graph Fusion for Multi-view Clustering; Wentao Rong (South China University of Technology); Enhong Zhuo (South China University of Technology); Guihua Tao (South China University of Technology); Jiazhou Chen (South China University of Technology); Hongmin Cai (South China University of Technology)*
		1640	aHCQ: Adaptive Hierarchical Clustering based Quantization Framework for Deep Neural Networks; Jiaxin Hu (Tongji University)*; Qinpei Zhao (Tongji University); Weixiong Rao (Tongji U)
		1805	Maintaining Consistency with Constraints: a Constrained Deep Clustering method; Yi Cui (Dalian University of Technology)*; Xianchao Zhang (Dalian University of Technology); Linlin Zong (Dalian University of Technology); Jie Mu (Dalian University of Technology)
6	Classical Data Mining - II (May 13, 2021, 14:30-16:15, Hall 2)	1	Similarity Forest Revisited: a Swiss Army Knife for Machine Learning; Stanisław Czekalski (Poznan University of Technology); Mikolaj Morzy (Poznan University of Technology)*
		132	Discriminative Representation Learning for Cross-domain Sentiment Classification; Shaokang Zhang (Chinese Academy of Sciences)*; Lei Jiang (Institute of Information Engineering, Chinese Academy of Sciences); Huailiang Peng (Institute of Information Engineering, Chinese Academy of Sciences); Qiong Dai (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, China, 100093); Jianlong Tan (Institute of Information Engineering, CAS, China)
		263	SAGCN: Towards Structure-Aware Deep Graph Convolutional Networks on Node Classification; Ming He (Beijing University of Technology); Tianyu Ding (Beijing University of Technology)*; Tianshuo Han (Beijing University of Technology)
		296	Hierarchical Learning of Dependent Concepts for Human Activity Recognition; Aomar Osmani (Laboratoire LIPN-UMR CNRS 7030, PRES Sorbonne Paris Cité); Massinissa Hamidi (Laboratoire LIPN-UMR CNRS 7030, PRES Sorbonne Paris Cité)*; Pegah Alizadeh (DVRC pôle universitaire Léonard de Vinci)
		1360	Improving Short Text Classification Using Context-Sensitive Representations and Content-Aware Extended Topic Knowledge; Zhihao Ye (Hunan University)*; Rui Wen (Tencent); Xi Chen (Tencent); Ye Liu (Sun Yat-Sen University); Ziheng Zhang (Tencent); Zhiyong Li (Hunan University); Ke Nai (Hunan

			University); Yefeng Zheng (Tencent)
		1428	A Novel Method for Offline Handwritten Chinese Character Recognition under the Guidance of Print; Keping Yan (East China Normal University); Jun Guo (East China Normal University)*; Weiqing Zhou (DongQi AI Co.,LTD)
7	Classical Data Mining -III (May 13, 2021, 16:30-18:00, Hall 4)	1449	Memorization in Deep Neural Networks: Does the Loss Function matter?; Deep Patel (Indian Institute of Science)*; P. S. Sastry (Indian Institute of Science)
		1519	Gaussian Soft Decision Trees for Interpretable Feature-Based Classification; Jaemin Yoo (Seoul National University)*; Lee Sael (Ajou University)
		1612	Efficient Nodes Representation Learning with Residual Feature Propagation; Fan Wu (Wuhan University Of Technology); Duantengchuan Li (Central China Normal University)*; Ke Lin (Harbin Institute of Technology, Shenzhen); Huawei Zhang (Wuhan University Of Technology)
		324	Graph Neural Networks for Soft Semi-Supervised Learning on Hypergraphs; Naganand Yadati (Indian Institute of Science)*; Tingran Gao (University of Chicago); Shahab Asoodeh (Harvard); Partha Talukdar (Indian Institute of Science); Anand Louis (Indian Institute of Science, Bangalore, India)
		1830	CrowdTeacher: Robust Co-teaching with Noisy Answers & Sample-specific Perturbations for Tabular Data; Mani Sotoodeh (Emory University)*; joyce Ho (Emory University); Li Xiong (Emory University)
8	Data Mining of Specialized Data – I (May 12th, 2021, 14:30-16:15, Hall 1)	233	Incrementally Finding the Vertices Absent from the Maximum Independent Sets; Xiaochen Liu (Fudan University); Weiguo Zheng (Fudan University)*; Zhenyi Chen (Fudan University); Zhenying He (Fudan University); X. Sean Wang (Fudan University)
		1427	A Meta-path based Graph Convolutional Network with Multi-Scale Semantic Extractions for Heterogeneous Event Classification; Haiyang Wang (National University of Defense Technology)*; Xin Song (National University of Defense Technology); Yujia Liu (National University of Defense Technology); Chenguang Chen (National University of Defense Technology); Bin Zhou (National University of Defense Technology)
		1634	Noise-Enhanced Unsupervised Link Prediction; Reyhaneh Abdolazimi (Syracuse University)*; Reza Zafarani (Syracuse University)
		1804	Graph InfoClust: Maximizing Coarse-Grain Mutual Information in Graphs; Konstantinos Mavromatis (University of Minnesota)*; George Karypis (University of Minnesota, Twin Cities)
		1514	Minitis-ALLOcc: An Efficient Algorithm for Mining Timed Sequential Patterns; Somayah M Karsoum (The University of Oklahoma)*
9	Data Mining of Specialized Data – II (May 13, 2021, 10:15-12:30 Hall 2)	262	Neighbours and Kinsmen: Hateful Users Detection with Graph Neural Network; Shu Li (Deakin University)*; Nayyar Zaidi (Deakin University); Qingyun Liu (Institute of Information Engineering, Chinese Academy of Sciences); Gang Li (Deakin Univeristy, Australia)
		1715	Graph Attention Networks with Positional Embeddings; Liheng Ma (McGill University)*; Reihaneh Rabbany (McGill University); Adriana Romero-Soriano (FAIR)
		1653	Weak Supervision Network Embedding for Constrained Graph Learning; Ting Guo (University of Technology, Sydney); Xingquan Zhu (Florida Atlantic University)*; Yang Wang (UTS); Fang Chen (UTS)
		1662	RAGA: Relation-aware Graph Attention Networks for Global Entity Alignment; Renbo Zhu (Peking University)*; Meng Ma (Peking University); Ping Wang (Peking University)
		1791	Unified Robust Training for Graph Neural Networks against Label Noise; Yayong Li (University of Technology Sydney)*; Jie Yin (The University of Sydney); Ling Chen (" University of Technology, Sydney, Australia")
		208	Fake News Detection with Heterogenous Deep Graph Convolutional Network; Zhezhou Kang (Institute of Information Engineering, Chinese Academy of Sciences)*; Yanan Cao (Institute of Information Engineering, Chinese Academy of Sciences); Yanmin Shang (Institute of Information Engineering, Chinese Academy of Sciences); Tao Liang (1. Institute of Information Engineering, Chinese Academy of Sciences. 2. School of Cyber Security, University of Chinese Academy of Sciences); Hengzhu Tang (Institute of Information Engineering,

			Chinese Academy of Sciences); Lingling Tong (National Computer Network Emergency Response Technical Team/Coordination Center of China)
		1814	A Deep Hybrid Pooling Architecture for Graph Classification with Hierarchical Attention; Sambaran Bandyopadhyay (IBM Research)*; Manasvi Aggarwal (Indian Institute of Science); M Narasimha Murty (Indian Institute of Science)
10	Data Mining of Specialized Data – III (May 12, 2021, 10:15-12:30, Hall 1)	1705	A k-MCST based Algorithm for Discovering Core-Periphery Structures in Graphs; Susheela Polepalli (University of Cincinnati)*; Raj K Bhatnagar (University of Cincinnati)
		224	Analyzing Topic Transitions in Text-based Social Cascades using Dual-Network Hawkes Process; Jayesh Choudhari (IIT Gandhinagar)*; Anirban Dasgupta (IIT Gandhinagar); Indrajit Bhattacharya (TCS Innovation Labs); Srikanta Bedathur (IIT Delhi)
		1539	Improved Topology Extraction using Discriminative Parameter Mining of Logs; Saranya Gupta (CUHK, Hong Kong, Hong Kong SAR); Atri Mandal (IBM research)*; Shivali Agarwal (IBM Research AI); Prateeti Mohapatra (IBM Research)
		1552	Back to Prior Knowledge: Joint Event Causality Extraction via Convolutional Semantic Infusion; Zijian Wang (Shanghai University)*; Hao Wang (Shanghai University); Xiangfeng Luo (Shanghai University); Jianqi Gao (Shanghai University)
		21	Detecting Sequentially Novel Classes with Stable Generalization Ability; Da-Wei Zhou (Nanjing University)*; Yang Yang (Nanjing University of Science and Technology); De-Chuan Zhan (Nanjing University)
		40	Learning-based Dynamic Graph Stream Sketch; Ding Li (Nanjing University); Wenzhong Li (Nanjing University)*; Yizhou Chen (Nanjing University); Mingkai Lin (Nanjing University); Sanglu Lu (NJU)
		260	HiPaR: Hierarchical Pattern-Aided Regression; Luis Galárraga (INRIA)*; Olivier Pelgrin (Aalborg University); Alexandre Termier (Université Rennes 1)
11	Data Mining of Specialized Data – IV (May 14, 2021, 10:15-12:30, Hall 2)	1789	Locally Linear Support Vector Machines for Imbalanced Data Classification; Bartosz Krawczyk (Virginia Commonwealth University)*; Alberto Cano (Virginia Commonwealth University)
		1849	Low-Dimensional Representation Learning from Imbalanced Data Streams; Lukasz Korycki (Virginia Commonwealth University); Bartosz Krawczyk (Virginia Commonwealth University)*
		307	Maximizing Explainability with SF-Lasso and Selective Inference for Video and Picture Ads; Eunkyung Park (University of New South Wales); Raymond K Wong (University of New South Wales)*; Junbum Kwon (University of New South Wales); Victor W. Chu (Nanyang Technological University)
		1387	Multiple Instance Learning for Unilateral Data; Xijia Tang (National University of Defense Technology); Tingjin Luo (National University of Defense Technology)*; Tianxiang Luan (National University of Defense Technology); Chenping Hou (National University of Defense Technology)
		1758	Gazetteer-Guided Keyphrase Generation from Research Papers; Santosh Y.S.S. Tokala (IIT Kharagpur)*; Debarshi Kumar Sanyal (Indian Association for the Cultivation of Science); Plaban Kumar Bhowmick (IIT Kharagpur); Partha Pratim Das (IIT Kharagpur)
		187	Reliably Calibrated Isotonic Regression; Otto E Nyberg (University of Helsinki)*; Arto Klami (University of Helsinki)
		1560	An Online Learning Algorithm for Non-Stationary Imbalanced Data by Extra-Charging Minority Class; Sajjad Kamali Siahroudi (L3S Research Center Leibniz University Hannover)*; Daniel Kudenko (L3S Research Center Leibniz University Hannover)
12	Data Mining of Specialized Data – V (May 14, 2021, 10:15-12:30, Hall 3)	1356	TERMCast: Temporal Relation Modeling for Effective Urban Flow Forecasting; Hao Xue (RMIT University)*; Flora D. Salim (RMIT University)
		1372	Traffic Flow Driven Spatio-Temporal Graph Convolutional Network for Ride-hailing Demand Forecasting; Hao Fu (University of science and technology of China); Zhong Wang (University of science and technology of China); Yang Yu (University of science and technology of China); Xianwei Meng (University of science and technology of China); Guiquan Liu (University of Science and Technology of China)*

		1397	A Proximity Forest for Multivariate Time Series Classification; Yue Zhang (Beijing Jiaotong University)*; Zhihai Wang (Beijing Jiaotong University); Jidong Yuan (Beijing Jiaotong University)
		1555	C ² -Guard: A Cross-Correlation Gaining Framework for Urban Air Quality Prediction; Yu Chu (Wuhan University Of Technology); Lin Li (Wuhan University of Technology, China)*; Qing Xie (Wuhan University of Technology); Guandong Xu (University of Technology Sydney, Australia)
		1590	Simultaneous multiple POI population patternanalysis system with HDP mixture regression; Yuta Hayakawa (Tokyo Institute of Technology)*; Kota Tsubouchi (Yahoo Japan Corporation); Masamichi Shimosaka (Tokyo Institute of Technology)
		1637	Interpretable Feature Construction for Time Series Extrinsic Regression; Dominique Gay (Université de La Réunion)*; Alexis Bondu (Orange); Vincent Lemaire (Orange); Marc Boulle (Orange Labs)
		1498	SEPC: Improving Joint Extraction of Entities and Relations by Strengthening Entity Pairs Connection; Jiapeng Zhao (Institute of Information Engineering, UCAS)*; Panpan Zhang (); Jinqiao Shi (Beijing University of Posts and Telecommunications); Tingwen Liu (Institute of Information Engineering, CAS)
13	Data Mining of Specialized Data – VI (May 12, 2021, 16:30-18:00, Hall 2)	115	T ^Λ 3N: Harnessing Text and Temporal Tree Network for Rumor Detection on Twitter; Nikhil Pinnaparaju (IIIT)*; Manish Gupta (Microsoft,India); Vasudeva Varma (IIIT Hyderabad)
		1502	Content matters: A GNN-based Model Combined with Text Semantics for Social Network Cascade Prediction; Yujia Liu (National University of Defense Technology)*; Kang Zeng (National University of Defense Technology); Haiyang Wang (National University of Defense Technology); Xin Song (National University of Defense Technology); Bin Zhou (National University of Defense Technology)
		1583	PhotoStylist: Altering the Style of Photos based on the Connotations of Texts; Siamul Karim Khan (University of Notre Dame); Yue Zhang (University of Notre Dame); Ziyi Kou (University of Notre Dame); Yang Zhang (University of Notre Dame); Dong Wang (University of Notre Dame)*
		16	Discovering Dense Correlated Subgraphs in Dynamic Networks; Giulia Preti (ISI Foundation); Polina Rozenshtein (Aalto University)*; Aristides Gionis (KTH); Yannis Velegarakis (Utrecht University and University of Trento)
		229	SCARLET: Explainable Attention based Graph Neural Network for Fake News spreader prediction; Bhavtosh - Rath (UNIVERSITY OF MINNESOTA)*; Xavier Morales (Harvard College); Jaideep Srivastava (University of Minnesota)
14	Data Mining Theory and Principles – I (May 12, 2021, 16:30-18:00 Hall 3)	1787	dK-Projection: Publishing Graph Joint degree distribution with Node Differential Privacy; Masooma Iftikhar (Australian National University)*; Qing Wang (ANU)
		1606	Sparse Spectrum Gaussian Process for Bayesian Optimization; Ang Yang (Deakin University)*; Cheng Li (National University of Singapore); Santu Rana (Deakin University, Australia); Sunil Gupta (Deakin University, Australia); Svetha Venkatesh (Deakin University)
		1730	Causal Inference Using Global Forecasting Models for Counterfactual Prediction; Priscila Grecov (Monash University); Kasun G Bandara (Monash University, Australia); Klaus Ackermann (Monash University); Sam Campbell (Turning Point, Eastern Health Clinical School, Monash University, Melbourne, Australia); Deborah Scott (Turning Point, Eastern Health Clinical School, Monash University, Melbourne, Australia); Dan Lubman (Turning Point, Eastern Health Clinical School, Monash University, Melbourne, Australia); Christoph Christoph Bergmeir (Monash University, Australia)*
		1801	CED-BGFN: Chinese Event Detection via Bidirectional Glyph-aware Dynamic Fusion Network; Qi Zhai (National University of Defense Technology)*; Zhigang Kan (National University of Defense Technology); Sen Yang (National University of Defense Technology); Linbo Qiao (School of Computer Science, National University of Defense Technology); Feng Liu (School of Computer Science, National University of Defense Technology); Dongsheng Li (National University of Defense Technology)
		1409	FARF: A Fair and Adaptive Random Forests Classifier; Wenbin Zhang (University of Maryland, Baltimore County)*
15	Data Mining	1493	Active Learning based Similarity Filtering for Efficient and Effective Record Linkage;

	Theory and Principles – II (May 13, 2021, 16:30-18:00, Hall 1)		Charini V Nanayakkara (Australian National University)*; Peter Christen (The Australian National University); Thilina N Ranbaduge (The Australian National University)
		1507	Learning Finite Automata with Shuffle; Xiaofan Wang (State Key Laboratory of Computer Science, Institute of Software, Chinese Academy of Sciences)*
		1716	Stratified Sampling for Extreme Multi-Label Data; Maximillian Merrillees (Monash University); Lan Du (Monash University)*
		1541	Vertical Federated Learning for Higher-order Factorization Machines; Kyohei Atarashi (Hokkaido University)*; Masakazu Ishihata (NTT Communication Science Laboratories)
		1458	Towards multi-label Feature selection by Instance and Label Selections; Dou El Kefel Mansouri (LIRIS)*; Khalid Benabdeslem (university lyon 1)
16	Recommender Systems – I (May 14, 2021, 10:15-12:30, Hall 1)	295	Transferable Contextual Bandits with Prior Observations; Kevin Labille (University of Arkansas); Wen Huang (University of Arkansas); Xintao Wu (University of Arkansas)*
		186	Improving Sequential Recommendation with Attribute-augmented Graph Neural Networks; Xinzhou Dong (Institute of Software, Chinese Academy of Sciences); Beihong Jin (Institute of Software, Chinese Academy of Sciences)*; Wei Zhuo (MX Player); Beibei Li (Institute of Software Chinese Academy of Sciences); Taofeng Xue (Institute of Software Chinese Academy of Sciences)
		287	Exploring Implicit Relationships in Social Network for Recommendation Systems; Yunhe Wei (Northwest Normal University); Huifang Ma (Northwest Normal University)*; Ruoyi Zhang (Northwest Normal University); Zhixin Li (Guangxi Normal University); Liang Chang (Guilin University of Electronic Technology)
		305	Modeling Hierarchical Intents and Selective Current Interest for Session-based Recommendation; mengfei zhang (Institute of Computing Technology Chinese Academy of Sciences,University of the Chinese Academy of Sciences)*; Cheng Guo (Institute of Computing Technology Chinese Academy of Sciences,University of the Chinese Academy of Sciences); Jiaqi Jin (Institute of Computing Technology Chinese Academy of Sciences,University of the Chinese Academy of Sciences); Mao Pan (Institute of Computing Technology Chinese Academy of Sciences,University of the Chinese Academy of Sciences); Jinyun Fang (Institute of Computing Technology Chinese Academy of Sciences)
		327	A Finetuned language model for Recommending cQA-QAs for enriching Textbooks; Shobhan Kumar (IIIT Dharwad)*; Arun Chauhan (Indian Institute of Information Technology Dharwad)
		1336	XCrossNet: Feature Structure-Oriented Learning for Click-Through Rate Prediction; Runlong Yu (University of Science and Technology of China)*; Yuyang Ye (Rutgers Business School); Qi Liu (" University of Science and Technology of China, China"); Zihan Wang (University of Science and Technology of China); Chunfeng Yang (Tencent); Yucheng Hu (Tencent); Enhong Chen (University of Science and Technology of China)
		1388	Learning Multiclass Classifier Under Noisy Bandit Feedback; Mudit Agarwal (IIIT Hyderabad)*; Naresh Manwani (International Institute of Information Technology, Hyderabad)
17	Recommender Systems - II (May 13, 2021, 10:15-12:30, Hall 3)	1448	Diversify or Not: Dynamic Diversification for Personalized Recommendation; Bin Hao (Tsinghua University)*; Min Zhang (Tsinghua University); Cheng Guo (Tsinghua University); Ma Weizhi (Tsinghua University); Yiqun LIU (Tsinghua University); Shaoping Ma (Tsinghua University)
		1482	Multi-criteria and Review-based Overall Rating Prediction; Edgar E Ceh Varela (New Mexico State University)*
		1515	W2FM: The Doubly-Warped Factorization Machine; Mao-Lin Li (Arizona State University)*; K. Selçuk Candan (Arizona State University)
		1556	Causal Combinatorial Factorization Machines for Set-wise Recommendation; Akira Tanimoto (NEC / Kyoto University / RIKEN AIP)*; Tomoya Sakai (NEC / RIKEN); Takashi Takenouchi (Future University Hakodate/RIKEN Center for Advanced Intelligence Project); Hisashi Kashima (Kyoto University)
		1575	Transformer-based Multi-task Learning for Queuing Time Aware Next POI Recommendation; Sajal Halder (RMIT University)*; Jeffrey Chan (RMIT University); Xiuzhen Zhang (RMIT University); Kwan Hui Lim (Singapore University of Technology and Design)
		1593	Joint Modeling Dynamic Preferences of Users and Items Using Reviews for Sequential

			Recommendation; Qingxian Wang (UESTC); Xinxin Li (University Of Electronic Science And Technology Of China); tianqi Shang (Sichuan University); Xiaoyu Shi (Chinese Academy of Sciences)*
		1620	Box4Rec: Box Embedding for Sequential Recommendation; Kai Deng (Guizhou University); Jiajin Huang (Beijing University of Technology)*; Jin Qin (Guizhou University)
18	Recommender Systems - III (May 14, 2021, 14:30-16:15, Hall 1)	1786	Nonlinear Matrix Factorization via Neighbor Embedding; Xuan Li (School of Software Tsinghua University)*; Yunfeng Wu (School of Software Tsinghua University); Li Zhang (School of Software Tsinghua University)
		1826	Deconfounding representation learning based on user interactions in Recommendation Systems; junruo gao (University of Chinese Academy of Sciences)*; Mengyue Yang (University of Chinese Academy of Sciences); yuyang liu (UCAS); jun li (UCAS)
		1622	UKIRF: An Item Rejection Framework for Improving Negative Items Sampling in One-Class Collaborative Filtering; Antônio David Viniski (Pontificia Universidade Católica do Paraná)*; Jean Paul Barddal (PUCPR); Alceu Britto (Pontifical Catholic University of Parana)
		1836	Instance Selection for Online Updating in Dynamic Recommender Environments; Thilina Thanthriwatta (NUS)*; David S. Rosenblum (National University of Singapore)
		1743	Personalized Regularization Learning for Fairer Matrix Factorization; Sirui Yao (Virginia Tech)*; Bert Huang (Tufts University)
		1752	IACN: Influence-aware and Attention-based Co-evolutionary Network for Recommendation; Shalini Pandey (University of Minnesota)*; Jaideep Srivastava (University of Minnesota); George Karypis (University of Minnesota, Twin Cities)
19	Representation Learning and Embedding – I (May 12, 2021, 14:30-16:15, Hall 3)	101	Episode Adaptive Embedding Networks for Few-shot Learning; Fangbing Liu (ANU)*; Qing Wang (ANU)
		282	Self-supervised Adaptive Aggregator Learning on Graph; Bei Lin (Central South University)*; binli Luo (Central South University); Jiaojiao He (Central South University); Ning Gui (Central South University)
		1628	Learning Attention-based Translational Knowledge Graph Embedding via Nonlinear Dynamic Mapping; Zhihao Wang (East China Normal Universtiy); Honggang Xu (East China Normal Universtiy); Xin Li (East China Normal Universtiy)*; Yuxin Deng (East China Normal Universtiy)
		1410	STEPS-RL: Speech-Text Entanglement for Phonetically Sound Representation Learning; Prakamya Mishra (Independent Researcher)*
		1424	RW-GCN: Training Graph Convolution Networks with biased random walk for Semi-Supervised Classification; Yinzhe Li (Inner Mongolia University)*; zhijie ban (Inner Mongolia University)
		198	Universal Representation for Code; Linfeng Liu (Tufts University)*; George Karypis (Amazon); Hoan Nguyen (Amazon); Srinivasan Sengamedu (Amazon)
20	Representation Learning and Embedding – II (May 13, 2021, 14:30-16:15, Hall 3)	1483	Loss-aware Pattern Inference: A Correction on the Wrongly Claimed Limitations of Embedding Models; Mojtaba Nayyeri (University of Bonn)*; Chengjin Xu (University of Bonn); Yadollah Yaghoobzadeh (Microsoft Research); Sahar Vahdati (InfAI); Mirza Mohtashim Alam (University of Bonn); Hamed Shariat Yazdi (University of Siegen); Jens Lehmann (Smart Data Analytics Group, University of Bonn)
		1490	SST-GNN: Simplified Spatio-temporal Traffic forecasting model using Graph Neural Network; Amit Roy (Independent University, Bangladesh)*; Kashob Kumar Roy (Independet University Bangladesh); Amin Ahsan Ali (Independent University Bangladesh); M Ashraful Amin (Independent University, Bangladesh); A K M Mahbubur Rahman (Independent University, Bangladesh)
		1538	VIKING: Adversarial Attack on Network Embeddings via Supervised Network Poisoning; Viresh Gupta (IIITD); Tanmoy Chakraborty (Indraprastha Institute of Information Technology Delhi (IIIT-D),India)*
		1544	Self-supervised Graph Representation Learning with Variational Inference; Zihan Liao (Dalian University of Technology); Wenxin Liang (Dalian University of Technology); Han Liu (Dalian University of Technology)*; Jie Mu (Dalian University of Technology); Xianchao Zhang (Dalian University of Technology)
		1581	Manifold Approximation and Projection by Maximizing Graph Information;

			Bahareh Fatemi (bfatemi@ut.ac.ir); Soheila Molaei (University of Tehran)*; Hadi Zare (University of Tehran); Shirui Pan (Monash University)
		1380	A Fast Algorithm for Simultaneous Sparse Approximation; Guihong Wan (The University of Texas at Dallas)*; Haim Schweitzer (UT Dallas)
21	Representation Learning and Embedding – III (May 14, 2021, 14:30-16:15, Hall 2)	1740	Multi-Grained Dependency Graph Neural Network for Chinese Open Information Extraction; Zhiheng Lyu (Tsinghua University)*; Kaijie Shi (Tsinghua University); Xin Li (Tsinghua University); Lei Hou (Tsinghua University); Juanzi Li (Tsinghua University); binheng song (tsinghua.edu)
		1794	Human-Understandable Decision Making for Visual Recognition; Xiaowei Zhou (University of Technology Sydney)*; Jie Yin (The University of Sydney); Ivor Tsang (University of Technology Sydney); Chen Wang (DATA61, CSIRO)
		1845	LightCAKE: A Lightweight Framework for Context-Aware Knowledge Graph Embedding; Zhiyuan Ning (Computer Network Information Center, Chinese Academy of Sciences. University of Chinese Academy of Sciences.); Ziyue Qiao (Computer Network Information Center, Chinese Academy of Sciences. University of Chinese Academy of Sciences.); Hao Dong (Computer Network Information Center, Chinese Academy of Sciences. University of Chinese Academy of Sciences.); Yi Du ("Computer Network Information Center, Chinese Academy of Sciences"); Yuanchun Zhou (Computer Network Information Center, Chinese Academy of Sciences)
		1567	Transferring Domain Knowledge with an Adviser in Continuous Tasks; Rukshan D Wijesinghe (University of Moratuwa)*; Kasun Vithanage (University of Moratuwa); Dumindu Tissera (University of Moratuwa); Alex Xavier (University of Moratuwa); Subha Fernando (University of Moratuwa); Jayathu Samarawickrama (University of Moratuwa)
		79	Inferring Hierarchical Mixture Structures: A Bayesian Nonparametric Approach; Weipeng Huang (Insight Centre for Data Analytics, University College Dublin)*; Nishma Laitonjam (Insight Centre for Data Analytics, University College Dublin); Guangyuan Piao (Maynooth University); Neil Joseph Hurley (University College Dublin)
		1696	Quality Control for Hierarchical Classification with Incomplete Annotations; Masafumi Enomoto (Kwansei Gakuin University)*; Kunihiro Takeoka (NEC Corporation); Yuyang Dong (NEC); Masafumi Oyamada (NEC); Takeshi Okadome (Kwansei Gakuin University)
22	Text Analytics – I (May 12, 2021, 10:15-12:30, Hall 2)	1615	Inducing Rich Interaction Structures between Words for Document-level Event Argument Extraction; Amir Pouran Ben Veyseh (University of Oregon)*; Franck Démoncourt (Adobe Research); Quan Tran (Adobe Research); Varun Manjunatha (Adobe Research); Lidan Wang (Adobe Research); Rajiv Jain (Adobe Research); Doo Soon Kim (Adobe Research); Walter Chang (Adobe Research); Thien Huu Nguyen (University of Oregon)
		13	Fusing Essential Knowledge for Text-Based Open-Domain Question Answering; Xiao Su (Peking University)*; Ying Li (Peking University); Zhonghai Wu (Peking University)
		125	TSSE-DMM: Topic Modeling for Short Texts based on Topic Subdivision and Semantic Enhancement; Chengcheng Mai (Nanjing University)*; Xueming Qiu (Nanjing University); Kaiwen Luo (Nanjing University); Min Chen (Nanjing University); Bo Zhao (Nanjing University); Yihua Huang (Nanjing University)
		203	SILVER: Generating Persuasive Chinese Product Pitch; Yunsen Hong (Xiamen University); Hui Li (Xiamen University); Yanghua Xiao (Fudan University); Chen Lin (Xiamen University)*
		245	Capturing SQL Query Overlapping via SubtreeCopy for Cross-domain Context-dependent SQL Generation; Ruizhuo Zhao (CAS Key Lab of Network Data Science and Technology, Institute of Computing Technology (ICT), Chinese Academy of Sciences (CAS))*; Jinhua Gao (Institute of Computing Technology, Chinese Academy of Sciences); Huawei Shen (Institute of Computing Technology, Chinese Academy of Sciences); Xueqi Cheng (Institute of Computing Technology, Chinese Academy of Sciences)
		1367	HScodeNet: Combining Hierarchical Sequential and Global Spatial Information of Text for Commodity HS Code Classification; Shaohua Du (Beijing Jiaotong University); Zhihao Wu (School of Computer and Information Technology, Beijing JiaoTong University, Beijing 100044, China; CAAC Key Lab of Intelligent Passenger Service of Civil Aviation, Beijing 101318, China); Huaiyu Wan (Beijing Jiaotong University)*; Youfang Lin (Beijing Jiaotong University)

		1479	PLVCG: A Pretraining Based Model for Live Video Comment Generation; Zehua Zeng (Institute of Information Engineering, Chinese Academy of Sciences; University of Chinese Academy of Sciences)*; Neng Gao (Institute of Information Engineering, Chinese Academy of Sciences); Cong Xue (Institute of Information Engineering, Chinese Academy of Sciences); Chenyang Tu (Institute of Information Engineering, Chinese Academy of Sciences)
23	Text Analytics – II (May 13, 2021, 16:30-18:00, Hall 2)	1854	Exploiting Relevant Hyperlinks in Knowledge Base for Entity Linking; Szu-Yuan Cheng (National Taiwan University of Science and Technology); Yi-Ling Chen (NTUST); Mi-Yen Yeh (Academia Sinica); Bo-Tao Lin (National Taiwan University of Science and Technology)*
		1418	Semantic-syntax Cascade Injection Model for Aspect Sentiment Triple Extraction; Wenjun Ke (Institute Of Computing Technology Chinese Academy Of Sciences)*; Jinhua Gao (Institute of Computing Technology, Chinese Academy of Sciences); Huawei Shen (Institute of Computing Technology, Chinese Academy of Sciences); Xueqi Cheng (Institute of Computing Technology, Chinese Academy of Sciences)
		1467	Modeling Inter-Aspect Relationship with Conjunction for Aspect-based Sentiment Analysis; Haoliang Zhao (South China Normal University)*; Yun Xue (South China Normal University); Donghong Gu (South China Normal University); Jianying Chen (South China Normal University); Luwei Xiao (South China Normal University)
		1785	Incorporating Syntactic Information into Relation Representations for Enhanced Relation Extraction; Li Cui (Fudan University)*; Deqing Yang (Fudan University); Yanghua Xiao (Fudan University); Jiayang Cheng (Fudan University)
		1664	Densely Connected Graph Attention Network based on Iterative Path Reasoning for Document-level Relation Extraction; Hongya Zhang (National University of Defense Technology)*; Zhen Huang (National Laboratory for Parallel and Distributed Processing, National University of Defense Technology, Changsha, Hunan); Zhenzhen Li (NUDT); Dongsheng Li (School of Computer Science, National University of Defense Technology); Feng Liu (School of Computer Science, National University of Defense Technology)
24	Deep Learning - I (May 12, 2021, 10:15-12:30, Hall 3)	1355	Learning Discriminative Features using Multi-label Dual Space; Ali Braytee (UTS)*; Wei Liu (University of Technology Sydney)
		1776	AutoCluster: Meta-learning Based Ensemble Method for Automated Unsupervised Clustering; Yue Liu (Shanghai University)*; Wenjie Tian (Shanghai University); Shuang Li (上海大学)
		157	BanditRank: Learning to Rank Using Contextual Bandits; Phanideep Gampa (Indian Institute of Technology (BHU) Varanasi)*; Sumio Fujita (Yahoo Japan Corporation)
		288	A compressed and accelerated SegNet for plant leaf disease segmentation: A Differential Evolution based approach; Mohit Agarwal (Bennett University)*; Suneet Gupta (BU); K.K. Biswas (Bennett University)
		1344	Meta-Context Transformers for Domain-Specific Response Generation; Debanjana Kar (IIT Kharagpur); Suranjana Samanta (IBM Research AI)*; Amar Prakash Azad (IBM Research AI)
		1573	A Multi-task Kernel Learning Algorithm for Survival Analysis; Zizhuo Meng (University of Technology Sydney)*; Jie Xu (University of Technology Sydney); Zhidong Li (UTS); Yang Wang (UTS); Fang Chen (UTS); Zhiyong Wang (The University of Sydney)
		1774	Meta-data Augmentation based Search Strategy through Generative Adversarial Network for AutoML Model Selection; Yue Liu (Shanghai University)*; Wenjie Tian (Shanghai University); Shuang Li (上海大学)
25	Deep Learning – II (May 14, 2021, 14:30-16:15, Hall 3)	104	Tree-Capsule: Tree-Structured Capsule Network for Improving Relation Extraction; Tianchi Yang (School of Computer Science, Beijing University of Posts and Telecommunications)*; Linmei Hu (School of Computer Science, Beijing University of Posts and Telecommunications); Luhao Zhang (Meituan); Chuan Shi (Beijing University of Posts and Telecommunications); Cheng Yang (Beijing University of Posts and Telecommunications); Nan Duan (Microsoft Research); Ming Zhou (Microsoft Research)
		1357	Rule Injection-based Generative Adversarial Imitation Learning for Knowledge Graph Reasoning ; Sheng Wang (Wuhan University of Technology)*; Xiaoying Chen (Hubei Credit Information Center; Wuhan University of Technology); Shengwu Xiong (Wuhan University of Technology)

		1364	Hierarchical Self Attention Based Autoencoder for Open-Set Human Activity Recognition; M Tanjid Hasan Tonmoy (University of Dhaka)*; Saif Mahmud (University of Dhaka); A K M Mahbubur Rahman (Independent University,Bangladesh); M Ashrafal Amin (Independent University, Bangladesh); Amin Ahsan Ali (Independent University Bangladesh)
		1589	Reinforced Natural Language Inference for Distantly Supervised Relation Classification; Bo Xu (Donghua University)*; Xiangsan Zhao (Donghua University); Chaofeng Sha (Fudan University); Minjun Zhang (Donghua University); Hui Song (Donghua University)
		1599	SaGCN: Structure-aware Graph Convolution Network for Document-level Relation Extraction; Shuangji Yang (East China Normal University)*; taolin zhang (East China Normal University); Danning Su (East China Normal University); Nan Hu (East China Normal University); Wei Nong (East China Normal University); Xiaofeng He (East China Normal University)
		1686	Addressing the class imbalance problem in medical image segmentation via accelerated Tversky loss function; Nikhil Nasalwai (Indian Institute of Information Technology Allahabad); Narinder Singh Punn (Indian Institute of Information Technology Allahabad)*; Sanjay Kumar Sonbhadra (Indian Institute of Information Technology, Allahabad); Sonali Agarwal (IIIT-Allahabad)
26	Speech and Text Analytics (May 13, 2021, 16:30-18:00, Hall 3)	1442	Upgraded Attention-based Local FeatureLearning Block for speech emotion recognition; Huan Zhao (Hunan University)*; Yingxue Gao (Hunan University); Yufeng Xiao (Hunan University)
		1692	Progressive AutoSpeech: An efficient and general framework for automatic speech classification; Guanghui Zhu (Nanjing University)*; Feng Cheng (Nanjing University); Mengchuan Qiu (Nanjing University); Zhuoer Xu (Nanjing University); Wenjie Wang (Nanjing University); Chunfeng Yuan (Nanjing University); Yihua Huang (Nanjing University)
		207	AngryBERT: Joint Learning Target and Emotion for Hate Speech Detection; Roy Ka-Wei Lee (Singapore University of Technology and Design)*; Md Rabiul Awal (University of Saskatchewan); Rui Cao (Singapore Management University); Sandra Mitrovic (Istituto Dalle Molle di Studi sull'Intelligenza Artificiale)
		299	TANTP: Conversational Emotion Recognition Using Tree-Based Attention Networks with Transformer Pre-training; Haozhe Liu (Beijing University of Posts and Telecommunications); Hongzhan Lin (Beijing University of Posts and Telecommunications); Guang Chen (Beijing University of Posts and Telecommunications)*
		1723	Incorporating Relational Knowledge in Explainable Fake News Detection; Kun KW Wu (Stevens Institute of Technology)*; Xu Yuan (University of Louisiana at Lafayette); Yue Ning (Stevens Institute of Technology)