



43rd International ACM SIGIR Conference on Research and Development in Information Retrieval



Table of Contents

SIGIR'20 Chairs' Welcome.....	3
SIGIR'20 Conference Organization	5
SIGIR'20 Program at a Glance	7
SIGIR'20 Keynote Talks	8
The Next Generation of Neural Networks	8
On Presuppositions of Machine Learning: A Meta Theory	9
Coopetition in IR Research.....	11
Proof by Experimentation? Towards Better IR Research.....	12
From Information to Assistance	14
How Deep Learning Works for Information Retrieval	15
Industry Track Invited Talks	16
Large-scale Multi-modal Search and QA at Alibaba	16
The New TREC Track on Podcast Search and Summarization	17
SIGIR'20 Main Conference Program.....	18
Monday, July 27, 2020	18
Tuesday, July 28, 2020	23
Wednesday, July 29, 2020.....	28
SIGIR'20 Short/Demo/TOIS Paper Session I.....	32
Short Paper Session I	32
Demonstration Paper Session I	35
TOIS Paper Session I.....	36
SIGIR'20 Short/Demo/TOIS Paper Session II.....	38
Short Paper Session II	38
Demonstration Paper Session II	41
TOIS Paper Session II.....	42
SIGIR'20 Summer School	44
Personalized Search.....	44
Natural Language Processing and Information Retrieval: Together at Last	45
Recent Advances in Language Model Pre-training.....	46
Offline Evaluation of IR systems.....	47
Information Retrieval as Interaction	48
Music recommendations (research) at Spotify	49
SIGIR'20 Social Event	50
SIGIR'20 DC Student Talk Session.....	51
SIGIR'20 Tutorials and Workshops at a Glance	52
SIGIR'20 Tutorials	53
Tutorial 1: Conversational Recommendation: Formulation, Methods, and Evaluation.....	53
Tutorial 2: Mining the Web for Cross-lingual Parallel Data	54
Tutorial 3: Tutorial on Task-Based Search and Assistance.....	55
Tutorial 4: Recent Advances in Conversational Information Retrieval.....	56

Tutorial 5: Reciprocal Recommendation: matching users with the right users	57
Tutorial 6: Question Answering over Curated and Open Web Sources	58
Tutorial 7: Modeling User Behavior for Vertical Search: Images, Apps and Products	59
Tutorial 8: Interactive Information Retrieval: Models, Algorithms, and Evaluation	60
Workshop Programs.....	61
The SIGIR 2020 Workshop on Applied Interactive Information Systems (AIIS 2020).....	61
The First Workshop on Information Retrieval in Finance (FinIR 2020).....	62
BIRDS - Bridging the Gap between Information Science, Information Retrieval and Data Science (BIRDS 2020)	63
The 2020 SIGIR Workshop on eCommerce (eCom'20)	64
The SIGIR 2020 Workshop on Deep Natural Language Processing for Search and Recommendation (DeepNLP)	66
The 1 st International Workshop on Legal Intelligence (LegalAI 2020)	68
SIGIR'20 Workshop on Deep Reinforcement Learning for Information Retrieval (DRL4IR)	69
The 3 rd International Workshop on Explainable Recommendation and Search (EARS 2020)	70
.....	72



SIGIR'20 Chairs' Welcome

Welcome to the 43rd Annual International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2020). SIGIR is the premier scientific conference in the broad area of information retrieval.

According to the original plan, SIGIR 2020 would be held at Hyatt Regency in Xi'an, China. Xi'an, known by most people as home to Terracotta Army of Emperor Qin, is one of the oldest cities in China. The beautiful Hyatt hotel was also carefully chosen after we had site visits for more than 15 local hotels and done frequent communications with experts and professionals across academia, government and industry. Due to the pandemic of COVID-19, the organizing committee of SIGIR 2020 decided to move this year's SIGIR fully online in April. Thus, our conference this year becomes the first virtual one in SIGIR history. This last-minute change of the conference posed many challenges and much burden in terms of preparation and sponsorships. Despite the shortened time period and challenges, General Chairs, Vice Chair and their local organizing team worked very diligently to carefully prepare an outstanding program for everyone.

This year SIGIR has received a record high number of submissions in its history, as shown in the following statistics. This trend suggests a renewed interest in our field. We were happy to observe the highest number of submissions for long, short, industry track and demo papers, which sums up to 1,180 papers. The accepted papers were made by 1,221 authors from 32 countries.

- 555 and 507 valid submissions for full and short papers respectively
- 80 effective submissions for industry track papers plus 38 demo papers submitted
- 147 papers were accepted for presentation as full papers, 152 were accepted for short papers, 22 were accepted as industry track papers, and 19 were accepted as demo papers

In addition to above tracks, SIGIR 2020 features 6 keynote speakers, 2 invited talks for this year's industry track - Symposium on IR in Practice (SIRIP), 8 pre-conference tutorials, 8 workshops, and 14 doctoral consortium papers. We are proud of our program and acknowledge the tireless efforts of people who materialized all this together.

First of all, we are honored to have these distinguished keynote speakers: Geoffrey E. Hinton (Google & University of Toronto, Canada), Norbert Fuhr (University of Duisburg-Essen, Germany), Ellen Voorhees (NIST, USA), Dacheng Tao (University of Sydney, Australia), Zongben Xu (Xi'an Jiaotong University, China) and Elizabeth F. Churchill (Google, USA). We deeply appreciate their time and commitment to SIGIR'20 conference and for sharing their cutting-edge research experiences, technical insights and contributions in their research topics with conference participants.

A tremendous amount of effort was undertaken to materialize this program and produce the proceedings. SIGIR 2020 used a two-tier double-blind review process. For all long papers, at least 3 PC members and 1 SPC member were assigned to provide first-round reviews. Subsequently, if the SPC member believed that the review process would benefit from additional expert opinion, a further SPC member was assigned to provide a second-round review. The first SPC would then make a preliminary recommendation. The recommendations, reviews and discussions held on EasyChair between all assigned SPC and PC members were carefully examined. The final acceptance decisions were made at the PC meeting held online from April 16 to 17. The program committee carefully reviewed all 555 submissions for long papers, and each received three or more reviews and a metareview. There are 122 SPCs and 923 PCs for the long paper track this year. For the short paper track, we have 312 PC members, among which 4 are additional reviewers. The PC members for short papers are from 220 institutions and 32 countries worldwide.

We would like to acknowledge the organization team: our Short Paper Chairs, Abdigani Diriye, Jiafeng Guo and Oren Kurland; our Best Paper Award Chairs, Norbert Fuhr and Rosie Jones; our Test of

Time Award Chairs, Falk Scholer, Nicholas J. Belkin and Udo Kruschwitz; our Industry Chairs, Milad Shokouhi, Luo Si and Grace Hui Yang; our Summer School Chairs, Charlie Clarke, Hang Li and Yanyan Lan; our Publicity Chairs, Mohand Boughanem and Cathal Gurrin; our Doctoral Consortium Chairs, Gabriella Kazai, Barbara Poblete and Jerry Shen; our Workshop Chairs, Joemon M Jose and Jiliang Tang; our Demonstration Paper Chairs, Aixin Sun and Jiashu (Jessie) Zhao; our Tutorial Chairs, Andrew MacFarlane and Mounia Lalmas; our Proceedings Chairs, Aijun An and Long Xia who worked with GCs, PCs & ACM publisher closely, monitored and managed the editing of the conference proceedings and booklet to meet the production schedule and create the program; our Sponsorship Chairs, Dawei Yin and Paraic Sheridan; our Local Arrangement Chair, Xinbo Gao; our Student Volunteer Chairs, Qiguang Miao and Liming Zhang; our Student Travel Award Chair, Yang Liu; our Treasury Chairs, Zehua Chen and Vlado Keselj; our Registration Chair, Vivian Hu; our Social Event Chair, George Georgopoulos; our Women-in-IR Chairs, Nazli Goharian, Suzan Verberne and Xin Ma; our Web Masters, Sadra Abrishamkar, Jiaxin Mao and Lei Liu; Zhicheng Dou for taking care of our online conference system integration. We would also like to sincerely thank ACM for providing professional help and support in compiling the proceedings and SIGIR Steering Committee Chair Ben Carterette for his great help and support. Without their tireless work, this conference could not have been successful.

In addition, we would like to express our gratitude to all our sponsors: ACM, ACM SIGIR, Beijing Academy of AI, Alibaba, Amazon, Apple, Meituan AI, Microsoft, Huawei, Baidu, Google, TRS, Bytedance, IBM, Kuaishou, Rulai and Polixir Technology. We also thank the SIGIR Student Travel Grant Program for the support. Our special thanks go to Chinese Academy of Sciences, Jilin University, Tsinghua University, Xidian University and York University.

It would have been impossible to organize a high-quality conference without the enormous support and expertise of many top-class researchers and leaders. Our sincere thanks are due to all chairs, co-chairs, senior program committee members, SIGIR steering committee for their support, program committee members, reviewers, all authors who submitted their high-quality papers to SIGIR 2020, Web support team, student volunteers and EasyChair for their wonderful contributions. We especially would like to acknowledge the generous help received from Zehua Chen, Vivian Hu and Sherry Zhu who are dealing with a huge amount of conference related work through the last 4 years' preparation from onsite to online and providing financial and registration management.

We hope that attendees find the technical program of SIGIR 2020 to be interesting and productive towards their research endeavors. We further hope that the conference will be stimulating, informative, enjoyable, a fulfilling and unforgettable experience to all who attend it. Enjoy the SIGIR 2020 conference and the opportunity to share and discuss ideas in information retrieval with other researchers and practitioners around the world online!

Jimmy Huang

*SIGIR'20 General Co-Chair
York University,
Canada*

Yi Chang

*SIGIR'20 General Co-Chair
Jilin University,
China*

Xueqi Cheng

*SIGIR'20 General Co-Chair
Chinese Academy of Sciences,
China*

Jaap Kamps

*SIGIR'20 PC Co-Chair
Univ. of Amsterdam,
Netherlands*

Vanessa Murdock

*SIGIR'20 PC Co-Chair
Amazon,
U.S.A.*

Ji-Rong Wen

*SIGIR'20 PC Co-Chair
Renmin Univ. of China,
China*

Yiqun Liu

*SIGIR'20 Vice Chair
Tsinghua Univ.,
China*

SIGIR'20 Conference Organization

General Chairs: Jimmy Huang (*York University, Canada*)
Yi Chang (*Jilin University, China*)
Xueqi Cheng (*Chinese Academy of Sciences, China*)

Program Chairs: Jaap Kamps (*University of Amsterdam, Netherlands*)
Vanessa Murdock (*Amazon, U.S.A.*)
Ji-Rong Wen (*Renmin University of China, China*)

Vice Chair: Yiqun Liu (*Tsinghua University, China*)

Short Paper Program Chairs: Abdigani Diriye (*Amazon, U.K.*)
Jiafeng Guo (*Chinese Academy of Sciences, China*)
Oren Kurland (*Israel Institute of Technology, Israel*)

Best Paper Chairs: Norbert Fuhr (*University of Duisburg-Essen, Germany*)
Rosie Jones (*Spotify, U.S.A.*)

Test of Time Award Chairs: Falk Scholer (*RMIT University, Australia*)
Nicholas J. Belkin (*Rutgers University, U.S.A.*)
Udo Kruschwitz (*Universität Regensburg, Germany*)

Industry Chairs: Milad Shokouh (*Microsoft, U.S.A.*)
Luo Si (*Alibaba Group Inc., China*)
Grace Hui Yang (*Georgetown University, U.S.A.*)

Summer School Chairs: Charlie Clarke (*University of Waterloo, Canada*)
Yanyan Lan (*Chinese Academy of Sciences, China*)
Hang Li (*ByteDance AI Lab, China*)

Publicity Chairs: Mohand Boughanem (*IRIT, Toulouse, France*)
Cathal Gurrin (*Dublin City University, Ireland*)

Doctoral Consortium Chairs: Gabriella Kazai (*Microsoft, U.K.*)
Barbara Poblete (*University of Chile, Chile*)
Jerry Shen (*Queen's University Belfast, U.K.*)

Workshop Chairs: Joemon M Jose (*University of Glasgow, U.K.*)
Jiliang Tang (*Michigan State University, U.S.A.*)

Demonstration Paper Chairs: Aixin Sun (*Nanyang Technological University, Singapore*)
Jiashu (Jessie) Zhao (*Wilfrid Laurier University, Canada*)

Tutorial Chairs: Andrew MacFarlane (*City, University of London, U.K.*)
Mounia Lalmas (*Spotify, U.K.*)

Proceedings Chairs: Aijun An (*York University, Canada*)
Long Xia (*York University, Canada*)

Sponsorship Chairs: Paraic Sheridan (*Dublin City University, Ireland*)
Dawei Yin (*Baidu Inc., China*)

Local Arrangement Chair: Xinbo Gao (*Xidian University, China*)

Student Volunteer Chairs: Qiguang Miao (*Xidian University, China*)
Liming Zhang (*University of Macau, China*)

Student Travel Award Chair: Yang Liu (*Wilfrid Laurier University, Canada*)

Web Masters: Sadra Abrishamkar (*York University, Canada*)
Lei Liu (*York University, Canada*)
Jiaxin Mao (*Tsinghua University, China*)

Treasury Chairs: Zehua Chen (*Taiyuan University of Tech., China*)
Vlado Keselj (*Dalhousie University, Canada*)

Registration Chair: Vivian Hu (*Ryerson University, Canada*)

Social Event Chair: George Georgopoulos (*York University, Canada*)

Women-in-IR Chairs: Nazli Goharian (*Georgetown University, U.S.A.*)
Xin Ma (*Microsoft Research Asia, China*)
Suzan Verberne (*Leiden University, Netherlands*)

Online System Integration Chair: Zhicheng Dou (*Renmin University of China, China*)

SIGIR'20 Program at a Glance

(Time Zone: UTC+8)

Saturday, July 25, 2020 SIGIR Summer School [Room: Epang Palace]				
Sunday, July 26	9:00-17:00 Tutorial			
	14:30-16:30 DC Student Talk Session I [Room: Xingqing Palace]			
	17:00-19:00 DC Student Talk Session II [Room: Xingqing Palace]			
	19:30-21:00 DC Student Talk Session III [Room: Xingqing Palace]			
	21:30-23:00 Social Event I (Student Event I) [Room: Weiyang Palace]			
Monday, July 27, 2020	7:00-8:00 Social Event II (Student Event II) [Room: Weiyang Palace]			
	8:10-8:30 Welcome & Conference Opening [Room: Xi'an]			
	8:30-9:30 Keynote I (Playback is available after 10:00) [Room: Xi'an] The Next Generation of Neural Networks			
	9:40 -	Session 1A [Room: Meituan] Neural IR and Semantic Matching	Session 1B [Room: Amazon] Knowledge and Explainability	Session 1C [Room: Alibaba] Graph-based Analysis
	11:40			Industrial Session I [Room: Microsoft]
	14:30-15:30 Keynote II (Playback is available after 16:00) [Room: Xi'an] On Presuppositions of Machine Learning: A Meta Theory			
	15:40 -	Session 2A [Room: Meituan] Knowledge for Personalization	Session 2B [Room: Amazon] User behavior and Experience	Session 2C [Room: Alibaba] Evaluation
	18:00			Industrial Session II [Room: Microsoft]
	19:00-20:30 Social Event III (Women in IR – Session A) [Room: Weiyang Palace]			
	20:00-22:00 Short/Demo/TOIS paper session I [Room: Daming Palace]			
Tuesday, July 28, 2020	22:00 -	Session 3A [Room: Meituan] Bias and Fairness	Session 3B [Room: Amazon] Learning to Rank	Session 3C [Room: Alibaba] Question Answering
	24:00			
	8:30-9:30 Keynote III (Playback is available after 10:00) [Room: Xi'an] Cooperation in IR Research			
	9:40 -	Session 4A [Room: Meituan] Query and Representation	Session 4B [Room: Amazon] Graph-based Recommendation	Session 4C [Room: Alibaba] Neural Networks and Embedding
	11:40			Industrial Session III [Room: Microsoft]
	14:30-15:30 Keynote IV (Playback is available after 16:00) [Room: Xi'an] Proof by Experimentation? Towards Better IR Research			
	15:40 -	Session 5A [Room: Meituan] Domain Specific Applications 1	Session 5B [Room: Amazon] Learning for Recommendation	Session 5C [Room: Alibaba] Information Access and Filtering
Wednesday, July 29, 2020	17:40			Industrial Session IV [Room: Microsoft]
	20:00-22:00 Short/Demo/TOIS paper session II [Room: Daming Palace], Social Event IV (DEI Event) [Room: Weiyang Palace]			
	22:00 -	Session 6A [Room: Meituan] Neural Collaborative Filtering 1	Session 6B [Room: Amazon] Domain Specific Applications 2	Session 6C [Room: Alibaba] Context-aware Modeling
	24:00			
	0:00-1:30 Social Event V (Women in IR – Session B) [Room: Weiyang Palace]			
Thursday, July 30, 2020 Workshops	8:30-9:30 Keynote V (Playback is available after 10:00) [Room: Xi'an] From Information to Assistance			
	9:40 -	Session 7A [Room: Meituan] Conversation and Interactive IR	Session 7B [Room: Amazon] Text Classification and Transfer Learning	Session 7C [Room: Alibaba] Neural Collaborative Filtering 2
	11:40			Industrial Session V [Room: Microsoft]
	14:30-15:30 Keynote VI (Playback is available after 16:00) [Room: Xi'an] How Deep Learning Works for Information Retrieval			
	15:40 -	Session 8A [Room: Meituan] Domain Specific Retrieval Tasks	Session 8B [Room: Amazon] Multi-modal Retrieval and Ranking	Session 8C [Room: Alibaba] Sequential Recommendation
	17:40			Industrial Session VI [Room: Microsoft]
	21:00-24:00 Conference Closing and Business Meeting [Room: Xi'an]			

Virtual Conference Portal is available at <https://sigir-schedule.baai.ac.cn/>.

SIGIR'20 Keynote Talks

The Next Generation of Neural Networks



Prof. Geoffrey Hinton

Google Research & Vector Institute
Canada

Time: July 27, 8:30-9:30 (Time Zone: UTC+8)

Room: Xi'an

Abstract

The most important unsolved problem with artificial neural networks is how to do unsupervised learning as effectively as the brain. There are currently two main approaches to unsupervised learning. In the first approach, exemplified by BERT and Variational Autoencoders, a deep neural network is used to reconstruct its input. This is problematic for images because the deepest layers of the network need to encode the fine details of the image. An alternative approach, introduced by Becker and Hinton in 1992, is to train two copies of a deep neural network to produce output vectors that have high mutual information when given two different crops of the same image as their inputs. This approach was designed to allow the representations to be untethered from irrelevant details of the input.

The method of optimizing mutual information used by Becker and Hinton was flawed (for a subtle reason that I will explain) so Pacannaro and Hinton replaced it by a discriminative objective in which one vector representation must select a corresponding vector representation from among many alternatives. With faster hardware, contrastive learning of representations has recently become very popular and is proving to be very effective, but it suffers from a major flaw: To learn pairs of representation vectors that have N bits of mutual information we need to contrast the correct corresponding vector with about 2^N incorrect alternatives. I will describe a novel and effective way of dealing with this limitation. I will also show that this leads to a simple way of implementing perceptual learning in cortex.

Biography

Geoffrey Hinton received his PhD in Artificial Intelligence from Edinburgh in 1978. After five years as a faculty member at Carnegie-Mellon he became a fellow of the Canadian Institute for Advanced Research and moved to the Department of Computer Science at the University of Toronto where he is now an Emeritus Distinguished Professor. He is also a Vice President & Engineering Fellow at Google and Chief Scientific Adviser of the Vector Institute.

He was one of the researchers who introduced the backpropagation algorithm and the first to use backpropagation for learning word embeddings. His other contributions to neural network research include Boltzmann machines, distributed representations, time-delay neural nets, mixtures of experts, variational learning and deep learning. His research group in Torontomademajor breakthroughs in deep learning that revolutionized speech recognition and object classification.

On Presuppositions of Machine Learning: A Meta Theory



Prof. Zongben Xu

Xi'an Jiaotong University & Pazhou Lab
China

Time: July 27, 14:30-15:30 (Time Zone: UTC+8)

Room: Xi'an

Abstract

Machine learning (ML) has been run and applied by premising a series of presuppositions, which contributes both the great success of AI and the bottleneck of further development of ML. These presuppositions include (i) the independence assumption of loss function on dataset (Hypothesis I); (ii) the large capacity assumption on hypothesis space including solution (Hypothesis II); (iii) the completeness assumption of training data with high quality (Hypothesis III); and (iv) the Euclidean assumption on analysis framework and methodology (Hypothesis IV).

We report, in this presentation, the effort and advances made by my group on how to break through these presuppositions of ML and drive ML development. For Hypothesis I, we introduce the noise modeling principle to adaptively design the loss function of ML, according to the distribution of data samples, which provides then a general way to robustize any ML implementation. For Hypothesis II, we propose the model driven deep learning approach to define the smallest hypothesis space of deep neural networks (DNN), which yields not only the very efficient deep learning, but also a novel way of DNN design, interpretation and connection with the traditional optimization based approach. For Hypothesis III, we develop the axiomatic curriculum learning framework to learn the patterns from an incomplete dataset step by step and from easy to difficult, which then provides feasible ways to tackle very complex incomplete data sets. Finally, For Hypothesis IV, we introduce Banach space geometry in general, and XU-Roach theorem in particular, as a possibly useful tool to conduct non-Euclidean analysis of ML problems. In each case, we present the idea, principles, application examples and literatures.

Biography

Zongben Xu, received his PhD degree in Mathematics in 1987 from Xi'an Jiaotong University, China. In 1988, he was a postdoctoral Research Fellow in the Department of Mathematics, The University of Strathclyde.

He worked as a Research Fellow in the Department of Computer Science and Engineering from 1992 to 1994, and 1996 to 1997, at The Chinese University of Hong Kong; a visiting professor in the University of Essex in 2001, and Napoli University in 2002. He has been with the School of Mathematics and Statistics, Xi'an Jiaotong University since 1982, where he served as a professor of mathematics and computer science, Dean of Sciences (1997-2003), VP of the university (2003-2014) and Chief Scientist of National Basic Research Program of China (973 Project). He is currently the director of Pazhou Lab, Guangzhou

and the National Lab for Big Data Analytics, Xi'an. He is also the Dean of Xi'an Academy of Mathematics and Mathematical Technology.

Professor Xu makes several important services for government and professional societies currently, including Consultant member of National Big Data Development Commission, the New Generation AI Development Commission and the National Natural Science Foundation of China. He is VP of Industrial and Applied Mathematics Society of China (CSIAM), the director of Big Data and AI Committee of CSIAM. He is also the co- Editor-in-chief of Journal of Big Data Analytics and Textbooks Series on Data Science and Big Data Technology (Higher Education Press of China).

Professor Xu has published over 280 academic papers on nonlinear functional analysis, optimization, machine learning and big data research, most of which are in international journals. His current research interests include mathematical theory and fundamental algorithms for big data Analysis, machine learning and data Science. Professor Xu has gotten many academic awards, say, the National Natural Science Award (2007), the National Scientific and Technological Advance Award (2011) of China, CSIAM Su Buchin Applied Mathematics Award (2008) and Tan Kah Kee Science Award (in Information Technology Science, 2018). He delivered a 45 minutes talk at the International Congress of Mathematicians (ICM 2010) upon the invitation of the congress committee. He was elected as a member of Chinese Academy of Science in 2011.

Coopetition in IR Research



Dr. Ellen M. Voorhees

National Institute for Standards and Technology
U.S.A.

Time: July 28, 8:30-9:30 (Time Zone: UTC+8)

Room: Xi'an

Abstract

Coopetitions are activities in which competitors cooperate for a common good. Community evaluations such as the Text REtrieval Conference (TREC) are prototypical examples of coopetitions in information retrieval (IR) and have now been part of the field for almost thirty years. This longevity and the proliferation of shared evaluation tasks suggest that, indeed, the net impact of community evaluations is positive. But what are these benefits, and what are the attendant costs?

This talk will use TREC tracks as case studies to explore the benefits and disadvantages of different evaluation task designs. Coopetitions can improve state-of-the-art effectiveness for a retrieval task by establishing a research cohort and constructing the infrastructure—including problem definition, test collections, scoring metrics, and research methodology—necessary to make progress on the task. They can also facilitate technology transfer and amortize the infrastructure costs. The primary danger of coopetitions is for an entire research community to overfit to some peculiarity of the evaluation task. This risk can be minimized by building multiple test sets and regularly updating the evaluation task.

Biography

Ellen Voorhees is a Senior Research Scientist at the US National Institute of Standards and Technology (NIST). Her primary responsibility at NIST is to manage the Text REtrieval Conference (TREC) project, a project that develops the infrastructure required for largescale evaluation of search engines and other information access technology. Voorhees' research focuses on developing and validating appropriate evaluation schemes to measure system effectiveness for diverse user tasks.

Voorhees received a B.Sc. in computer science from the Pennsylvania State University, and M.Sc. and Ph.D. degrees in computer science from Cornell University. Prior to joining NIST she was a Senior Member of Technical Staff at Siemens Corporate Research in Princeton, NJ where her work on intelligent agents applied to information access resulted in three patents.

Voorhees is a fellow of the ACM, a member of AAAI, and has been elected as a fellow of the Washington Academy of Sciences. She has published numerous articles on information retrieval techniques and evaluation methodologies and serves on the review boards of several journals and conferences.

Proof by Experimentation? Towards Better IR Research



Prof. Norbert Fuhr

University of Duisburg-Essen
Germany

Time: July 28, 14:30-15:30 (Time Zone: UTC+8)

Room: Xi'an

Abstract

The current fight against the COVID-19 pandemic illustrates the importance of proper scientific methods: Besides fake news lacking any factual evidence, reports on clinical trials with various drugs often yield contradicting results; here, only a closer look at the underlying empirical methodology can help in forming a clearer picture.

In IR research, empirical foundation in the form of experiments plays an important role. However, the methods applied often are not at the level of scientific standards that hold in many other disciplines, as IR experiments are frequently flawed in several ways: Measures like MRR or ERR are invalid by definition, and MAP is based on unrealistic assumptions about user behaviour; computing relative improvements of arithmetic means is statistical nonsense; test hypotheses often are formulated after the experiment has been carried out; multiple hypotheses are tested without correction; many experiments are not reproducible results or are compared to weak baselines [1, 6]; frequent reuse of the same test collections yields random results [2]; authors (and reviewers) believe that experiments prove the claims made. Methods for overcoming these problems have been pointed out [5], but are still widely ignored.

However, even when experimental results have been achieved via proper methods, this only solves the issue of internal validity. The problem of external validity has hardly been addressed in IR so far. Just having empirical results for a handful or test collections does not enable us to make any statements on how far we can generalise these observations. So we should put more emphasis on understanding why certain methods work (or don't work) under certain circumstances - instead of looking at improvements at the third or fourth decimal place. This would allow us to make more generally valid statements, and be a first step towards being able to predict performance for new collections

To conclude, better research in IR can only be achieved by

- Enforcing rigorous experimental methodology at our top venues.
- Establishing leaderboards and carrying out metastudies for monitoring the actual scientific progress in our field.
- Understanding should be valued higher than raw performance.
- Ultimately, research should aim more at performance prediction than at performance measurement.

Biography

Norbert Fuhr holds a PhD (Dr.) in Computer Science from the Technical University of Darmstadt, which he received in 1986. He became Associate Professor in the computer science department of the University of Dortmund in 1991 and was appointed Full Professor for computer science at the University of Duisburg-Essen in 2002. His past research dealt with topics such as probabilistic retrieval models, the integration of IR and databases, retrieval in distributed digital libraries and XML documents, and user friendly retrieval interfaces. His current research interests are models for interactive retrieval, social media retrieval, and evaluation methodology. Norbert Fuhr has served as PC member and program chair of major conferences in IR and digital libraries, and on the editorial boards of several journals in these areas. In 2012, he received the Gerald Salton Award of ACM-SIGIR.

From Information to Assistance



Dr. Elizabeth F. Churchill

Google
U.S.A.

Time: July 29, 8:30-9:30 (Time Zone: UTC+8)

Room: Xi'an

Abstract

“Knowledge is of two kinds. We know a subject ourselves, or we know where we can find information upon it. When we enquire into any subject, the first thing we have to do is to know what books have treated of it. This leads us to look at catalogues, and at the backs of books in libraries.”

– Samuel Johnson (Boswell’s Life of Johnson)

When Johnson was writing this, said libraries were very exclusive, inaccessible to most. When I was growing up the library was a favorite place to find information with the help of expert assistants, trained librarians. Nowadays, while libraries are still one of my favorite institutions, we have powerful digital information search, retrieval, and assemblage services, bundled into easily accessible tools at our fingertips.

As information proliferates and human information needs remain high, information retrieval will continue to be a central area of investigation. We will also need better and better tools to access, assemble, and represent that information in ways that can be understood and applied—tools that ensure information turns into knowledge that is useful and used.

In this talk, I will focus on how people find information, and how the tools we build aid in that finding. Using case studies, I will outline some that remain challenging, and offer some case studies and edge cases where more work is needed. I will share thoughts on how emerging assistant devices and services are and are not meeting the challenge of becoming expert information assistants.

Biography

Elizabeth Churchill is a Director of UX at Google. She is also the Executive Vice President of the Association of Computing Machinery (ACM), a member of the ACM’s CHI Academy, and an ACM Fellow, Distinguished Scientist, and Distinguished Speaker. With a background in psychology, Artificial Intelligence and Cognitive Science, she draws on social, computer, engineering and data sciences to create innovative digital tools, applications, and services. She has built research teams at Google, eBay, Yahoo, PARC and FujiXerox. She holds a PhD from the University of Cambridge and honorary doctorates from the University of Sussex, and the University of Stockholm. In 2016, she received the Citris-Banatao Institute Athena Award for Executive Leadership.

How Deep Learning Works for Information Retrieval



Prof. Dacheng Tao

The University of Sydney
Australia

Time: July 29, 14:30-15:30 (Time Zone: UTC+8)

Room: Xi'an

Abstract

Information retrieval (IR) is the science of search, the search of user query relevant pieces of information from a collection of unstructured resources. Information in this context includes text, imagery, audio, video, xml, program, and metadata. The journey of an IR process begins with a user query sent to the IR system which encodes the query, compares the query with the available resources, and returns the most relevant pieces of information. Thus, the system is equipped with the ability to store, retrieve and maintain information.

In the early era of IR, the whole process was completed using handcrafted features and ad-hoc relevance measures. Later, principled frameworks for relevance measure were developed with statistical learning as a basis. Recently, deep learning has proven essential to the introduction of more opportunities to IR. This is because data-driven features combined with datadriven relevance measures can effectively eliminate the human bias in either feature or relevance measure design.

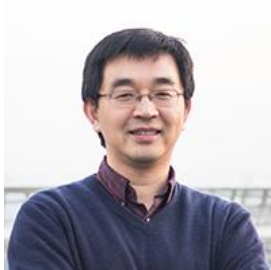
Deep learning has shown its significant potential to transform IR evidenced by abundant empirical results. However, we continue to strive to gain a comprehensive understanding of deep learning. This is done by answering questions such as why deep structures are superior to shallow structures, how skip connections affect a model's performance, uncovering the potential relationship between some of the hyper-parameters and a model's performance, and exploring ways to reduce the chance for deep models to be fooled by adversaries. Answering such questions can help design more effective deep models and devise more efficient schemes for model training.

Biography

Dacheng Tao is Professor of Computer Science and ARC Laureate Fellow in the School of Computer Science and the Faculty of Engineering, and the Inaugural Director of the UBTECH Sydney Artificial Intelligence Centre, at The University of Sydney. His research results in artificial intelligence have expounded in one monograph and 200+ publications at learning journals and conferences, such as IEEE TPAMI, AAAI, IJCAI, NeurIPS, ICML, CVPR, ICCV, ECCV, ICDM, and KDD, with several best paper awards. He received the 2018 IEEE ICDM Research Contributions Award and the 2015 Australian Museum Scopus-Eureka prize. He is a Fellow of the IEEE, the ACM and the Australian Academy of Science.

Industry Track Invited Talks

Large-scale Multi-modal Search and QA at Alibaba



Dr. Rong Jin

DAMO Academy, Alibaba Group
China

Time: July 27, 9:40-10:40 (Time Zone: UTC+8)

Room: Microsoft

Abstract

In this talk, we will present ongoing efforts of Alibaba on large-scale multi-modal search and question-answering, including image search, video search, cross lingual retrieval, and QA based on machine reading and comprehension (MRC). We will also share in this talk the core technologies that are crucial to the development of the related technologies, including representation learning, data augmentation, and robust learning.

Biography

Rong Jin is currently an associate director of DAMO academy at Alibaba, leading the research and development of state-of-the-art AI technologies. Before joining Alibaba, he was a faculty member of the Computer and Science Engineering Dept. at Michigan State University from 2003 to 2015. His research is focused on statistical machine learning and its application to large-scale data analysis. He published over 300 technique papers, mostly on the top conferences and prestigious journals. He is an associate editor of IEEE Transaction on Pattern Analysis and Machine Intelligence (TPAMI) and ACM Transaction on Knowledge Discovery from Data. Dr. Jin holds Ph.D. in Computer Science from Carnegie Mellon University. He received the NSF career award in 2006, and the best paper award from COLT in 2012.

The New TREC Track on Podcast Search and Summarization



Dr. Rosie Jones

Spotify
U.S.A.

Time: July 28, 9:40-10:40 (Time Zone: UTC+8)

Room: Microsoft

Abstract

Podcasts are exploding in popularity. As this medium grows, it becomes increasingly important to understand the content of podcasts (e.g. what exactly is being covered, by whom, and how?), and how we can use this to connect users to shows that align with their interests. Given the explosion of new material, how do listeners find the needle in the haystack, and connect to those shows or episodes that speak to them? Furthermore, once they are presented with potential podcasts to listen to, how can they decide if this is what they want?

To move the needle forward more rapidly toward this goal, we've introduced the Spotify Podcasts Dataset [1] and TREC shared task [2]. This dataset represents the first large-scale set of podcasts, with transcripts, released to the research community. The accompanying shared task is part of the TREC 2020 Conference, run by the US National Institute of Standards and Technology. The challenge is planned to run for several years, with progressively more demanding tasks: this first year, the challenge involves a search-related task and a task to automatically generate summaries, both based on transcripts of the audio.

In this talk I will describe the task and dataset, outlining how the dataset is orders of magnitude larger than previous spoken document datasets, and how the tasks take us beyond previous shared tasks both in spoken document retrieval and NLP.

Biography

Rosie Jones is a Director of Research at Spotify. Her lab conducts research on language technologies, with applications including podcast search and recommendation, and voice understanding. Prior to joining Spotify, she was a Principal Scientist at Microsoft working on conversational agents. She has also worked as Director of Computational Advertising at Akamai, and as a Principal Scientist at Yahoo working on online advertising and search. She is a senior member of the ACM and is a PC co-chair for SIGIR 2021.

SIGIR'20 Main Conference Program

Monday, July 27, 2020

(Time Zone: UTC+8)

Welcome & Conference Opening (July 27, 8:10-8:30)

Room: Xi'an

Welcome: General Chairs

Program Introduction: PC Chairs

Keynote I (July 27, 8:30-9:30; playback is available after 10:00)

Chair: Jimmy Huang and Yi Chang

Room: Xi'an

Title: The Next Generation of Neural Networks

Speaker: Geoffrey Hinton, *Google Research & Vector Institute*

Session 1A (July 27, 9:40-11:40)

Neural IR and Semantic Matching

Chair: Hamed Zamani (*Microsoft*)

Room: Meituan

- Training Effective Neural CLIR by Bridging the Translation Gap. *Hamed Bonab, Sheikh Muhammad Sarwar, and James Allan*
- A Quantum Interference Inspired Neural Matching Model for Ad-hoc Retrieval. *Yongyu Jiang, Peng Zhang, Hui Gao, and Dawei Song*
- A Deep Recurrent Survival Model for Unbiased Ranking. *Jiarui Jin, Yuchen Fang, Weinan Zhang, Kan Ren, Guorui Zhou, Jian Xu, Yong Yu, Jun Wang, Xiaoqiang Zhu, and Kun Gai*
- ColBERT: Efficient and Effective Passage Search via Contextualized Late Interaction over BERT. *Omar Khattab and Matei Zaharia*
- Efficient Document Re-Ranking for Transformers by Precomputing Term Representations. *Sean MacAvaney, Franco Maria Nardini, Raffaele Perego, Nicola Tonellotto, Nazli Goharian, Ophir Frieder*
- A Reinforcement Learning Framework for Relevance Feedback, *Ali MontazerAlghaem, Hamed Zamani, and James Allan*

Session 1B (July 27, 9:40-11:40)

Knowledge and Explainability

Chair: Vanessa Murdock (*Amazon*)

Room: Amazon

- Fairness-Aware Explainable Recommendation over Knowledge Graphs. *Zuohui Fu, Yikun Xian, Ruoyuan Gao, Jieyu Zhao, Qiaoying Huang, Yingqiang Ge, Shuyuan Xu, Shijie Geng, Chirag Shah, Yongfeng Zhang, and Gerard de Melo*
- Attentional Graph Convolutional Networks for Knowledge Concept Recommendation in MOOCs in a Heterogeneous View. *Jibing Gong, Shen Wang, Jinlong Wang, Hao Peng, Wenzheng Feng, Dan Wang, Yi Zhao, Huanhuan Li, Jie Tang, and P. Yu*
- Sequential Recommendation with Self-attentive Multi-adversarial Network. *Ruiyang Ren, Zhaoyang Liu, Yaliang Li, Wayne Xin Zhao, Hui Wang, Bolin Ding, and Ji-Rong Wen*

- MVIN: Learning multiview items for recommendation. *Chang-You Tai, Meng-Ru Wu, Yun-Wei Chu, Shao-Yu Chu, and Lun-Wei Ku*
- Make It a CHORUS: Context- and Knowledge-aware Item Modeling for Recommendation. *Chenyang Wang, Min Zhang, Weizhi Ma, Yiqun Liu, and Shaoping Ma*
- Evolutionary Product Description Generation: A Dynamic Fine-Tuning Approach Leveraging User Click Behavior. *Yongzhen Wang, Jian Wang, Heng Huang, Hongsong Li, and Xiaozhong Liu*

Session 1C (July 27, 9:40-11:40)**Graph-based Analysis****Chair:** Qiaozhu Mei (*University of Michigan*)**Room:** Alibaba

- Pairwise View Weighted Graph Network for View-based 3D Model Retrieval. *Zan Gao, Yin-Ming Li, Wei-Li Guan, Wei-Zhi Nie, Zhi-Yong Cheng, and An-An Liu*
- Detecting User Community in Sparse Domain via Cross-Graph Pairwise Learning. *Zheng Gao, Hongsong Li, Zhuoren Jiang, and Xiaozhong Liu*
- BiANE: Bipartite Attributed Network Embedding. *Wentao Huang, Yuchen Li, Yuan Fang, Ju Fan, and Hongxia Yang*
- Hierarchical Fashion Graph Network for Personalised Outfit Recommendation. *Xingchen Li, Xiang Wang, Xiangnan He, Long Chen, Jun Xiao, and Tat-Seng Chua*
- Global Context Enhanced Graph Nerual Networks for Session-based Recommendation. *Ziyang Wang, Wei Wei, Cong Gao, Xiaoli Li, Xianling Mao, and Minghui Qiu*
- Interactive Recommender System via Knowledge Graph-enhanced Reinforcement Learning. *Sijin Zhou, Xinyi Dai, Haokun Chen, Weinan Zhang, Kan Ren, Ruiming Tang, Xiuqiang He, and Yong Yu*

Industrial Session I (July 27, 9:40-11:40)**Chair:** Weinan Zhang (*Shanghai Jiao Tong University*)**Room:** Microsoft

- **Invited talk:** Large-scale Multi-modal Search and QA at Alibaba. *Rong Jin*
- User Behavior Retrieval for Click-Through Rate Prediction. *Jiarui Qin, Weinan Zhang, Xin Wu, Jiarui Jin, Yuchen Fang, and Yong Yu*
- How Airbnb Tells You Will Enjoy Sunset Sailing in Barcelona? Recommendation in a Two-Sided Travel Marketplace. *Liang Wu and Mihajlo Grbovic*

Break (12:00-14:30)*Virtual discussion rooms available***Keynote II (July 27, 14:30-15:30; playback is available after 16:00)****Chair:** Yi Chang and Xueqi Cheng**Room:** Xi'an**Title:** On Presuppositions of Machine Learning: A Meta Theory**Speaker:** Zongben Xu, *Xi'an Jiaotong University & Pazhou Lab***Session 2A (July 27, 15:40-18:00)****Knowledge for Personalization****Chair:** Imed Zitouni (*Google*)**Room:** Meituan

- Jointly Non-Sampling Learning for Knowledge Graph Enhanced Recommendation. *Chong Chen, Min Zhang, Weizhi Ma, Yiqun Liu, and Shaoping Ma*
- AutoGroup: Automatic Feature Grouping for Modelling Explicit High-Order Feature Interactions in CTR Prediction. *Bin Liu, Niannan Xue, Huifeng Guo, Ruiming Tang, Stefanos Zafeiriou, Xiuqiang He, and Zhenguo Li*
- KERL: A Knowledge-Guided Reinforcement Learning Model for Sequential Recommendation. *Pengfei Wang, Yu Fan, Long Xia, Wayne Xin Zhao, Shaozhang Niu, and Jimmy Huang*
- CKAN: Collaborative Knowledge-aware Attentive Network for Recommender Systems. *Ze Wang, Lin Guangyan, Huobin Tan, Qinghong Chen, and Xiyang Liu*
- CATN: Cross-Domain Recommendation for Cold-Start Users via Aspect Transfer Network. *Cheng Zhao, Chenliang Li, Rong Xiao, Hongbo Deng, and Aixin Sun*
- Leveraging Demonstrations for Reinforcement Recommendation Reasoning over Knowledge Graphs. *Kangzhi Zhao, Xiting Wang, Yuren Zhang, Li Zhao, Zheng Liu, Chunxiao Xing, and Xing Xie*
- Incorporating Scenario Knowledge into A Unified Fine-tuning Architecture for Event Representation. *Jianming Zheng, Fei Cai, and Honghui Chen*

Session 2B (July 27, 15:40-18:00)

User Behavior and Experience

Chair: Suzan Verberne (*Leiden University*)

Room: Amazon

- Ranking-Incentivized Quality Preserving Content Modification. *Gregory Goren, Oren Kurland, Moshe Tennenholtz, and Fiana Raiber*
- On Understanding Data Worker Interaction Behaviors. *Lei Han, Tianwa Chen, Gianluca Demartini, Marta Indulska, and Shazia Sadiq*
- Creating a Children-Friendly Reading Environment via Joint Learning of Content and Human Attention. *Guoxiu He, Yangyang Kang, Zhuoren Jiang, Jiawei Liu, Changlong Sun, Xiaozhong Liu, and Wei Lu*
- Octopus: Comprehensive and Elastic User Representation for the Generation of Recommendation Candidates. *Zheng Liu, Junhan Yang, Jianxun Lian, Defu Lian, and Xing Xie*
- The Cortical Activity of Graded Relevance. *Zuzana Pinkosova, William McGeown, and Yashar Moshfeghi*
- Asymmetric Tri-training for Debiasing Missing-Not-At-Random Explicit Feedback. *Yuta Saito*
- Beyond User Embedding Matrix: Learning to Hash for Modeling Large-Scale Users in Recommendation. *Shaoyun Shi, Weizhi Ma, Min Zhang, Yongfeng Zhang, Xinxing Yu, Houzhi Shan, Yiqun Liu, and Shaoping Ma*

Session 2C (July 27, 15:40-18:00)

Evaluation

Chair: Mark Sanderson (*RMIT University*)

Room: Alibaba

- Measuring Recommendation Explanation Quality: The Conflicting Goals of Explanations. *Krisztian Balog and Filip Radlinski*
- Bayesian Inferential Risk Evaluation on Multiple IR Systems. *Rodger Benham, Ben Carterette, J. Shane Culpepper, and Alistair Moffat*
- How to Measure the Reproducibility of System-oriented IR Experiments. *Timo Breuer, Nicola Ferro, Norbert Fuhr, Maria Maistro, Tetsuya Sakai, Philipp Schaer, and Ian Soboroff*
- Good Evaluation Measures based on Document Preferences. *Tetsuya Sakai and Zhaohao Zeng*

- Preference-based Evaluation Metrics for Web Image Search. *Xiaohui Xie, Jiaxin Mao, Yiqun Liu, Maarten de Rijke, Haitian Chen, Min Zhang, and Shaoping Ma*
- Models Versus Satisfaction: Towards a Better Understanding of Evaluation Metrics. *Fan Zhang, Jiaxin Mao, Yiqun Liu, Xiaohui Xie, Weizhi Ma, Min Zhang, and Shaoping Ma*
- Cascade or Recency: Constructing Better Evaluation Metrics for Session Search. *Fan Zhang, Jiaxin Mao, Yiqun Liu, Weizhi Ma, Min Zhang, and Shaoping Ma*

Industrial Session II (July 27, 15:40-18:00)

Chair: Mounia Lalmas (*Spotify*)

Room: Microsoft

- Efficient and Effective Query Auto-Completion. *Simon Gog, Giulio Ermanno Pibiri, and Rossano Venturini*
- ATBRG: Adaptive Target-Behavior Relational Graph Network for Effective Recommendation. *Yufei Feng, Binbin Hu, Fuyu Lv, Qingwen Liu, Zhiqiang Zhang, and Wenwu Ou*
- Multiplex Behavioral Relation Learning for Recommendation via Memory Augmented Transformer Network. *Lianghao Xia, Chao Huang, Yong Xu, Peng Dai, Bo Zhang, and Liefeng Bo*
- Entire Space Multi-Task Modeling via Post-Click Behavior Decomposition for Conversion Rate Prediction. *Hong Wen, Jing Zhang, Yuan Wang, Fuyu Lv, Wentian Bao, Quan Lin, and Keping Yang*
- Automated Embedding Size Search in Deep Recommender Systems. *Haochen Liu, Xiangyu Zhao, Chong Wang, Xiaobing Liu, and Jiliang Tang*

Short/Demo/TOIS paper session I (July 27, 20:00-22:00)

Room: Daming Palace

Virtual discussion rooms available

Session 3A (July 27, 22:00-24:00)

Bias and Fairness

Chair: Ricardo Baeza-Yates (*Northeastern University*)

Room: Meituan

- Operationalizing the Legal Principle of Data Minimization for Personalization. *Asia J. Biega, Peter Potash, Hal Daumé III, Fernando Diaz, and Michèle Finck*
- Learning Personalized Risk Preferences for Recommendation. *Yingqiang Ge, Shuyuan Xu, Shuchang Liu, Zuohui Fu, Fei Sun, and Yongfeng Zhang*
- Certifiable Robustness to Discrete Adversarial Perturbations for Factorization Machines. *Yang Liu, Xianzhao Xia, Liang Chen, Xiangnan He, Carl Yang, and Zibin Zheng*
- Controlling Fairness and Bias in Dynamic Ranking. *Marco Morik, Ashudeep Singh, Jessica Hong, and Thorsten Joachims*
- Can the Crowd Identify Misinformation Objectively? The Effects of Judgments Scale and Assessor's Bias. *Kevin Roitero, Michael Soprano, Shaoyang Fan, Damiano Spina, Stefano Mizzaro, and Gianluca Demartini*
- Measuring and Mitigating Item Under-Recommendation Bias in Personalized Ranking Systems. *Ziwei Zhu, Jianling Wang, and James Caverlee*

Session 3B (July 27, 22:00-24:00)

Learning to Rank

Chair: Hang Li (*Bytedance*)

Room: Amazon

- What Makes a Top-Performing Precision Medicine Search Engine? Tracing Main System Features in a Systematic Way. *Erik Faessler, Michel Oleynik, and Udo Hahn*
- Accelerated Convergence for Counterfactual Learning to Rank. *Rolf Jagerman and Maarten de Rijke*
- DVGAN: A Minimax Game for Search Result Diversification Combining Explicit and Implicit Features. *Jiongnan Liu, Zhicheng Dou, Xiaojie Wang, Shuqi Lu, and Ji-Rong Wen*
- Policy-Aware Unbiased Learning to Rank for Top-k Rankings. *Harrie Oosterhuis and Maarten de Rijke*
- SetRank: Learning a Permutation-Invariant Ranking Model for Information Retrieval. *Liang Pang, Jun Xu, Qingyao Ai, Yanyan Lan, Xueqi Cheng, and Ji-Rong Wen*
- Reinforcement Learning to Rank with Pairwise Policy Gradient. *Jun Xu, Zeng Wei, Long Xia, Yanyan Lan, Dawei Yin, Xueqi Cheng, and Ji-Rong Wen*

Session 3C (July 27, 22:00-24:00)**Question Answering**

Chair: Jochen L. Leidner (*Refinitiv Labs / University of Sheffield*)

Room: Alibaba

- Humor Detection in Product Question Answering Systems. *Elad Kravi, David Carmel, and Yftah Ziser*
- Training Curricula for Open Domain Answer Re-Ranking. *Sean MacAvaney, Franco Maria Nardini, Raffaele Perego, Nicola Tonellotto, Nazli Goharian, and Ophir Frieder*
- Open-Retrieval Conversational Question Answering. *Chen Qu, Liu Yang, Cen Chen, Minghui Qiu, W. Bruce Croft, and Mohit Iyyer*
- Learning to Ask Screening Questions for Job Postings. *Baoxu Shi, Shan Li, Jaewon Yang, Mustafa Emre Kazdagli, and Qi He*
- Match²: A Matching over Matching Model for Similar Question Identification. *Zizhen Wang, Yixing Fan, Jiafeng Guo, Liu Yang, Ruqing Zhang, Yanyan Lan, Xueqi Cheng, Hui Jiang, and Xiaozhao Wang*
- Answer Ranking for Product-Related Questions via Multiple Semantic Relations Modeling. *Wenxuan Zhang, Yang Deng, and Wai Lam*

Tuesday, July 28, 2020
(Time Zone: UTC+8)

Break (July 28, 0:00-6:00)

Virtual discussion rooms available

Keynote III (July 28, 8:30-9:30; playback is available after 10:00)

Chair: Jimmy Huang and Yiqun Liu

Room: Xi'an

Title: Coopetition in IR Research

Speaker: Ellen M. Voorhees, *National Institute for Standards and Technology*

Session 4A (July 28, 9:40-11:40)

Query and Representation

Chair: Rob Capra (*University of North Carolina*)

Room: Meituan

- ESAM: Discriminative Domain Adaptation with Non-Displayed Items to Improve Long-Tail Performance. *Zhihong Chen, Rong Xiao, Chenliang Li, Gangfeng Ye, Haochuan Sun, and Hongbo Deng*
- Table Search Using a Deep Contextualized Language Model. *Zhiyu Chen, Mohamed Trabelsi, Jeff Heflin, Yinan Xu, and Brian Davison*
- Convolutional Embedding for Edit Distance. *Xinyan Dai, Xiao Yan, Kaiwen Zhou, Yuxuan Wang, Han Yang, and James Cheng*
- ASiNE: Adversarial Signed Network Embedding. *Yeon-Chang Lee, Nayoun Seo, Sang-Wook Kim, and Kyungsik Han*
- Efficient Graph Query Processing over Geo-Distributed Datacenters. *Ye Yuan, Delong Ma, Zhenyu Wen, Yuliang Ma, Guoren Wang, and Lei Chen*
- Spatio-Temporal Dual Graph Attention Network for Query-POI Matching. *Zixuan Yuan, Hao Liu, Yanchi Liu, Denghui Zhang, Fei Yi, Nengjun Zhu, and Hui Xiong*

Session 4B (July 28, 9:40-11:40)

Graph-based Recommendation

Chair: Chirag Shah (*University of Washington*)

Room: Amazon

- LightGCN: Simplifying and Powering Graph Convolution Network for Recommendation. *Xiangnan He, Kuan Deng, Xiang Wang, Yan Li, Yongdong Zhang, and Meng Wang*
- GAME: Learning Graphical and Attentive Multi-view Embeddings for Occasional Group Recommendation. *Zhixiang He, Chi-Yin Chow, and Jia-Dong Zhang*
- Multi-behavior Recommendation with Graph Convolution Networks. *Bowen Jin, Chen Gao, Xiangnan He, Yong Li, and Depeng Jin*
- GAG: Global Attributed Graph Neural Network for Streaming Session-based Recommendation. *Ruihong Qiu, Hongzhi Yin, Zi Huang, and Tong Chen*
- Joint Item Recommendation and Attribute Inference: An Adaptive Graph Convolutional Network Approach. *Le Wu, Yonghui Yang, Kun Zhang, Richang Hong, Yanjie Fu, and Meng Wang*
- GCN-Based User Representation Learning for Unifying Robust Recommendation and Fraudster Identification. *Shijie Zhang, Hongzhi Yin, Tong Chen, Nguyen Quoc Viet Hung, Zi Huang, and Lizhen Cui*

Session 4C (July 28, 9:40-11:40)**Neural Networks and Embedding****Chair:** Doug Oard (*University of Maryland*)**Room:** Alibaba

- Using Phoneme Representations to Build Predictive Models Robust to ASR Errors. *Simone Filice, Anjie Fang, Nut Limsopatham, and Oleg Rokhlenko*
- Knowledge Enhanced Personalized Search. *Shuqi Lu, Zhicheng Dou, Chenyan Xiong, Xiaojie Wang, and Ji-Rong Wen*
- Learning Dynamic Node Representations with Graph Neural Networks. *Yao Ma, Ziyi Guo, Zhaochun Ren, Jiliang Tang, and Dawei Yin*
- An Eye Tracking Study of Web Search by People with and without Dyslexia. *Srishti Palani, Adam Fourney, Shane Williams, Kevin Larson, Irina Spiridonova, and Meredith Ringel Morris*
- DGL-KE: Training knowledge graph embeddings at scale. *Da Zheng, Xiang Song, Chao Ma, Zeyuan Tan, Zihao Ye, Hao Xiong, Zheng Zhang, and George Karypis*
- Neural Interactive Collaborative Filtering. *Lixin Zou, Long Xia, Yulong Gu, Weidong Liu, Dawei Yin, Jimmy Huang, and Xiangyu Zhao*

Industrial Session III (July 28, 9:40-11:40)**Chair:** Vanessa Murdock (*Amazon*)**Room:** Microsoft

- **Invited talk:** The New TREC Track on Podcast Search and Summarization. *Roise Jones*
- Think Beyond the Word: Understanding the Implied Textual Meaning by Digesting Context, Local, and Noise. *Guoxiu He, Zhe Gao, Zhuoren Jiang, Yangyang Kang, Changlong Sun, Xiaozhong Liu, and Wei Lu*
- Robust Layout-aware IE for Visually Rich Documents with Pre-trained Language Models. *Mengxi Wei, Yifan He, and Qiong Zhang*

Break (12:00-14:30)*Virtual discussion rooms available***Keynote IV (July 28, 14:30-15:30; playback is available after 16:00)****Chair:** Jimmy Huang and Xueqi Cheng**Room:** Xi'an**Title:** Proof by Experimentation? Towards Better IR Research**Speaker:** Norbert Fuhr, *University of Duisburg-Essen***Session 5A (July 28, 15:40-17:40)****Domain Specific Applications 1****Chair:** Elad Yom-Tov (*Microsoft Research*)**Room:** Meituan

- Fashion Compatibility Modeling through a Multi-modal Try-on-guided Scheme. *Xue Dong, Jianlong Wu, Xueming Song, Hongjun Dai, and Liqiang Nie*
- Spatial Object Recommendation with Hints: When Spatial Granularity Matters. *Hui Luo, Jingbo Zhou, Zhifeng Bao, Shuangli Li, J. Shane Culpepper, Haochao Ying, Hao Liu, and Hui Xiong*
- Product Bundle Identification using Semi-Supervised Learning. *Hen Tzaban, Ido Guy, Asnat Greenstein-Messica, Arnon Dagan, Lior Rokach, and Bracha Shapira*

- Coding Electronic Health Records with Adversarial Reinforcement Path Generation. *Shanshan Wang, Pengjie Ren, Zhumin Chen, Zhaochun Ren, Jian-Yun Nie, Jun Ma, and Maarten de Rijke*
- Degree-Aware Alignment for Entities in Tail. *Weixin Zeng, Xiang Zhao, Wei Wang, Jiuyang Tang, and Zhen Tan*
- Regional Relation Modeling for Visual Place Recognition. *Yingying Zhu, Biao Li, Jiong Wang, and Zhou Zhao*

Session 5B (July 28, 15:40-17:40)**Learning for Recommendation****Chair:** Nicola Ferro (*University of Padua*)**Room:** Amazon

- A General Knowledge Distillation Framework for Counterfactual Recommendation via Uniform Data. *Dugang Liu, Pengxiang Cheng, Zhenhua Dong, Xiuqiang He, Weike Pan, and Zhong Ming*
- Agreement and Disagreement between True and False-Positive Metrics in Recommender Systems Evaluation. *Elisa Mena-Maldonado, Rocío Cañamares, Pablo Castells, Yongli Ren, and Mark Sanderson*
- Leveraging Social Media for Medical Text Simplification. *Nikhil Pattisapu, Nishant Prabhu, Smriti Bhat, and Vasudeva Varma*
- Sampler Design for Implicit Feedback Data by Noisy-label Robust Learning. *Wenhui Yu and Zheng Qin*
- MaHRL: Multi-goals Abstraction based Deep Hierarchical Reinforcement Learning for Recommendations. *Dongyang Zhao, Liang Zhang, Bo Zhang, Lizhou Zheng, Yongjun Bao, and Weipeng Yan*
- Towards Question-based Recommender Systems. *Jie Zou, Yifan Chen, and Evangelos Kanoulas*

Session 5C (July 28, 15:40-17:40)**Information Access and Filtering****Chair:** Djoerd Hiemstra (*Radboud University*)**Room:** Alibaba

- Try This Instead: Personalized and Interpretable Substitute Recommendation. *Tong Chen, Hongzhi Yin, Guanhua Ye, Zi Huang, Yang Wang, and Meng Wang*
- Towards Linking Camouflaged Descriptions to Implicit Products in E-commerce. *Longtao Huang, Bo Yuan, Rong Zhang, and Quan Lu*
- Distributed Equivalent Substitution Training for Large-Scale Recommender Systems. *Haidong Rong, Yangzihao Wang, Feihu Zhou, Junjie Zhai, Haiyang Wu, Rui Lan, Fan Li, Han Zhang, Yuekui Yang, Zhenyu Guo, and Di Wang*
- Query Resolution for Conversational Search with Limited Supervision. *Nikos Voskarides, Dan Li, Pengjie Ren, Evangelos Kanoulas, and Maarten de Rijke*
- Self-Supervised Reinforcement Learning for Recommender Systems. *Xin Xin, Alexandros Karatzoglou, Ioannis Arapakis, and Joemon Jose*
- Generative Attribute Manipulation Scheme for Flexible Fashion Search. *Xin Yang, Xuemeng Song, Xianjing Han, Haokun Wen, Jie Nie, and Liqiang Nie*

Industrial Session IV (July 28, 15:40-17:40)**Chair:** Rui Wang (*Alibaba Group*)**Room:** Microsoft

- Understanding Echo Chambers in E-commerce Recommender Systems. *Yingqiang Ge, Shuya Zhao, Honglu Zhou, Changhua Pei, Fei Sun, Wenwu Ou, and Yongfeng Zhang*

- Towards Personalized and Semantic Retrieval: An End-to-End Solution for E-commerce Search via Embedding Learning. *Han Zhang, Songlin Wang, Kang Zhang, Zhiling Tang, Yunjiang Jiang, Yun Xiao, Paul Yan, and Wen-Yun Yang*
- GMCM: Graph-based Micro-behavior Conversion Model for Post-click Conversion Rate Estimation. *Wentian Bao, Hong Wen, Sha Li, Xiao-Yang Liu, Quan Lin, and Keping Yang*
- A Heterogeneous Information Network based Cross Domain Insurance Recommendation System for Cold Start Users. *Ye Bi, Liqiang Song, Mengqiu Yao, Zhenyu Wu, Jianming Wang, and Jing Xiao*
- Item Tagging for Information Retrieval: A Tripartite Graph Neural Network based Approach. *Kelong Mao, Xi Xiao, Jieming Zhu, Biao Lu, Ruiming Tang, and Xiuqiang He*

Short/Demo/TOIS Paper Session II (July 28, 20:00-22:00)

Room: Daming Palace

Virtual discussion rooms available

Session 6A (July 28, 22:00-24:00)

Neural Collaborative Filtering 1

Chair: Min Zhang (*Tsinghua University*)

Room: Meituan

- How Dataset Characteristics Affect the Robustness of Collaborative Recommendation Models. *Yashar Deldjoo, Tommaso Di Noia, Felice Antonio Merra, Eugenio Di Sciascio*
- DPLCF: Differentially Private Local Collaborative Filtering. *Chen Gao, Chao Huang, Dongsheng Lin, Yong Li, and Depeng Jin*
- Content-aware Neural Hashing for Cold-start Recommendation. *Casper Hansen, Christian Hansen, Jakob Grue Simonsen Stephen Alstrup, and Christina Lioma*
- Meta Matrix Factorization for Federated Rating Predictions. *Yujie Lin, Pengjie Ren, Zhumin Chen, Zhaochun Ren, Dongxiao Yu, Jun Ma, Maarten de Rijke, and Xiuzhen Cheng*
- The Impact of More Transparent Interfaces on Behavior in Personalized Recommendation. *Tobias Schnabel, Paul Bennett, Saleema Amershi, Peter Bailey, and Thorsten Joachims*
- Disentangled Representations for Graph-based Collaborative Filtering. *Xiang Wang, Hongye Jin, An Zhang, Xiangnan He, Tong Xu, and Tat-Seng Chua*

Session 6B (July 28, 22:00-24:00)

Domain Specific Applications 2

Chair: Krisztian Balog (*University of Stavanger*)

Room: Amazon

- Domain-Adaptive Neural Automated Essay Scoring. *Yue Cao, Hanqi Jin, Xiaojun Wan, and Zhiwei Yu*
- ADORE: Aspect Dependent Online REview Labeling for Review Generation. *Parisa Kaghazgaran, Jianling Wang, Ruihong Huang, and James Caverlee*
- Finding the Best of Both Worlds: Faster and More Robust Top-k Document Retrieval. *Omar Khattab, Mohammad Hammoud, and Tamer Elsayed*
- Recommending Podcasts for Cold-Start Users Based on Music Listening and Taste. *Zahra Nazari, Christophe Charbuillet, Johan Pages, Martin Laurent, Denis Charrier, Briana Vecchione, and Benjamin Carterette*
- Learning with Weak Supervision for Email Intent Detection. *Kai Shu, Subhabrata Mukherjee, Guoqing Zheng, Ahmed Hassan Awadallah, Milad Shokouhi, and Susan Dumais*
- 3D Self-Attention for Unsupervised Video Quantization. *Jingkuan Song, Ruimin Lang, Xiaosu Zhu, Xing Xu, Lianli Gao, and Heng Tao Shen*

Session 6C (July 28, 22:00-24:00)**Context-aware Modeling****Chair:** Carsten Eickhoff (*Brown University*)**Room:** Alibaba

- Modeling Personalized Item Frequency Information for Next-basket Recommendation. *Haoji Hu, Xiangnan He, Jinyang Gao, and Zhi-Li Zhang*
- Transfer Learning via Contextual Invariants for One-to-Many Cross-Domain Recommendation. *Adit Krishnan, Mahashweta Das, Mangesh Bendre, Hao Yang, and Hari Sundaram*
- Incorporating User Micro-behaviors and Item Knowledge into Multi-task Learning for Session-based Recommendation. *Wenjing Meng, Deqing Yang, and Yanghua Xiao*
- Next-item Recommendation with Sequential Hypergraphs. *Jianling Wang, Kaize Ding, Liangjie Hong, Huan Liu, and James Caverlee*
- Encoding History with Context-aware Representation Learning for Personalized Search. *Yujia Zhou, Zhicheng Dou, and Ji-Rong Wen*
- Recommendation for New Users and New Items via Randomized Training and Mixture-of-Experts Transformation. *Ziwei Zhu, Shahin Sefati, Parsa Saadatpanah, and James Caverlee*

Wednesday, July 29, 2020
(Time Zone: UTC+8)

Break (0:00-6:00)

Virtual discussion rooms available

Keynote V (July 29, 8:30-9:30; playback is available after 10:00)

Chair: Yi Chang and Yiqun Liu

Room: Xi'an

Title: From Information to Assistance

Speaker: Elizabeth F. Churchill, *Google*

Session 7A (July 29, 9:40-11:40)**Conversation and Interactive IR**

Chair: Jeff Dalton (*University of Glasgow*)

Room: Meituan

- Neural Representation Learning for Clarification in Conversational Search. *Helia Hashemi, Hamed Zamani, and Bruce Croft*
- Investigating Reference Dependence Effects on User Search Interaction and Satisfaction. *Jiqun Liu and Fangyuan Han*
- DukeNet: A Dual Knowledge Interaction Network for Knowledge-Grounded Conversation. *Chuan Meng, Pengjie Ren, Zhumin Chen, Weiwei Sun, Zhaochun Ren, Zhaopeng Tu, and Maarten de Rijke*
- What If Bots Feel Moods? Towards Controllable Retrieval-based Dialogue Systems with Emotion-Aware Transition Networks. *Lisong Qiu, Ying Wai Shiu, Pingping Lin, Ruihua Song, Yue Liu, Dongyan Zhao, and Rui Yan*
- Expressions of Style in Information Seeking Conversation with an Agent. *Paul Thomas, Daniel McDuff, Mary Czerwinski, and Nick Craswell*
- Analyzing and Learning from User Interactions for Search Clarification. *Hamed Zamani, Bhaskar Mitra, Everest Chen, Gord Lueck, Fernando Diaz, Paul Bennett, Nick Craswell, and Susan Dumais*

Session 7B (July 29, 9:40-11:40)**Text Classification and Transfer Learning**

Chair: Rosie Jones (*Spotify*)

Room: Amazon

- A Unified Dual-view Model for Review Summarization and Sentiment Classification with Inconsistency Loss. *Hou Pong Chan, Wang Chen, and Irwin King*
- Enhancing Text Classification via Discovering Additional Semantic Clues from Logograms. *Chen Qian, Fuli Feng, Lijie Wen, Li Lin, and Tat-Seng Chua*
- Learning to Transfer Graph Embeddings for Inductive Graph based Recommendation. *Le Wu, Yonghui Yang, Lei Chen, Defu Lian, Richang Hong, and Meng Wang*
- Web-to-Voice Transfer for Product Recommendation on Voice. *Rongting Zhang and Jie Yang*
- Minimally Supervised Categorization of Text with Metadata. *Yu Zhang, Yu Meng, Jiaxin Huang, Frank F. Xu, Xuan Wang, and Jiawei Han*
- Joint Aspect-Sentiment Analysis with Minimal User Guidance. *Honglei Zhuang, Fang Guo, Chao Zhang, Liyuan Liu, and Jiawei Han*

Session 7C (July 29, 9:40-11:40)

Neural Collaborative Filtering 2**Chair:** Yi Fang (*Santa Clara University*)**Room:** Alibaba

- AR-CF: Augmenting Virtual Users and Items in Collaborative Filtering for Addressing Cold-Start Problems. *Dong-Kyu Chae, Jihoo Kim, Sang-Wook Kim, and Duen Horng Chau*
- Studying Product Competition Using Representation Learning. *Fanglin Chen, Xiao Liu, Davide Proserpio, Isamar Troncoso, and Feiyu Xiong*
- Deep Critiquing for VAE-based Recommender Systems. *Kai Luo, Hojin Yang, Ga Wu, and Scott Sanner*
- GroupIM: A Mutual Information Maximizing Framework for Neural Group Recommendation. *Aravind Sankar, Yanhong Wu, Yuhang Wu, Wei Zhang, Hao Yang, and Hari Sundaram*
- Neighbor Interaction Aware Graph Convolution Networks for Recommendation. *Jianing Sun, Yingxue Zhang, Wei Guo, Huifeng Guo, Ruiming Tang, Xiuqiang He, Chen Ma, and Mark Coates*
- A General Network Compression Framework for Sequential Recommender Systems. *Yang Sun, Fajie Yuan, Min Yang, Guoao Wei, Zhou Zhao, and Duo Liu*

Industrial Session V (July 29, 9:40-11:45)**Chair:** Imed Zitouni (*Google*)**Room:** Microsoft

- A Counterfactual Framework for Seller-Side A/B Testing on Marketplaces. *Viet Ha-Thuc, Avishek Dutta, Ren Mao, Matthew Wood, and Yunli Liu*
- Knowledge Graph-based Event Embedding Framework for Financial Quantitative Investments. *Dawei Cheng, Fangzhou Yang, Xiaoyang Wang, Ying Zhang, and Liqing Zhang*
- FashionBERT: Text and Image Matching with Adaptive Loss for Cross-modal Retrieval. *Dehong Gao, Linbo Jin, Ben Chen, Minghui Qiu, Yi Wei, Yi Hu, and Hao Wang*
- Large Scale Abstractive Multi-Review Summarization (LSARS) via Aspect Alignment. *Haojie Pan, Rongqin Yang, Xin Zhou, Rui Wang, Deng Cai, and Xiaozhong Liu*
- Be Aware of the Hot Zone: A Warning System of Hazard Area Prediction to Intervene Novel Coronavirus COVID-19 Outbreak. *Zhenxin Fu, Yu Wu, Hailei Zhang, Yichuan Hu, Dongyan Zhao, and Rui Yan*

Break (12:00-14:30)*Virtual discussion rooms available***Keynote VI (July 29, 14:30-15:30; playback is available after 16:00)****Chair:** Xueqi Cheng and Yiqun Liu**Room:** Xi'an**Title:** How Deep Learning Works for Information Retrieval**Speaker:** Dacheng Tao, *The University of Sydney***Session 8A (July 29, 15:40-17:40)****Domain Specific Retrieval Tasks****Chair:** David Carmel (*Amazon*)**Room:** Meituan

- Learning Efficient Representations of Mouse Movements to Predict User Attention in Sponsored Search. *Ioannis Arapakis and Luis A. Leiva*

- Query Reformulation in E-Commerce Search. *Sharon Hirsch, Ido Guy, Alexander Nus, Arnon Dagan, and Oren Kurland*
- Generating Images Instead of Retrieving them: Relevance feedback on Generative Adversarial Networks. *Antti Ukkonen, Pyry Joona, and Tuukka Ruotsalo*
- Tree-augmented Cross-Modal Encoding for Complex-Query Video Retrieval. *Xun Yang, Jianfeng Dong, Yixin Cao, Xun Wang, Meng Wang, and Tat-Seng Chua*
- Nonlinear Robust Discrete Hashing for Cross-Modal Retrieval. *Zhan Yang, Jun Long, Lei Zhu, and Wenti Huang*
- Employing Personal Word Embeddings for Personalized Search. *Jing Yao, Zhicheng Dou, and Ji-Rong Wen*

Session 8B (July 29, 15:40-17:40)

Multi-modal Retrieval and Ranking

Chair: Benjamin Piwowarski (CNRS)

Room: Amazon

- Query Rewriting for Voice Shopping Null Queries. *Iftah Gamzu, Marina Haikin, and Nissim Halabi*
- Joint-modal Distribution-based Similarity Hashing for Large-scale Unsupervised Deep Cross-modal Retrieval. *Song Liu, Shengsheng Qian, Yang Guan, Jiawei Zhan, and Long Ying*
- Learning Colour Representations of Search Queries. *Paridhi Maheshwari, Manoj Ghuman A, and Vishwa Vinay*
- Web Table Retrieval using Multimodal Deep Learning. *Roei Shraga, Haggai Roitman, Guy Feigenblat, and Mustafa Canim*
- Online Collective Matrix Factorization Hashing for Large-Scale Cross-Media Retrieval. *Di Wang, Quan Wang, Yaqiang An, Xinbo Gao, and Yumin Tian*
- Correlated Features Synthesis and Alignment for Zero-shot Cross-modal Retrieval. *Xing Xu, Kaiyi Lin, Huimin Lu, Lianli Gao, and Heng Tao Shen*

Session 8C (July 29, 15:40-17:40)

Sequential Recommendation

Chair: Josiane Mothe (University of Toulouse)

Room: Alibaba

- HME: A Hyperbolic Metric Embedding Approach for Next-POI Recommendation. *Shanshan Feng, Lucas Vinh Tran, Gao Cong, Lisi Chen, Jing Li, and Fan Li*
- Dual Sequential Network for Temporal Sets Prediction. *Leilei Sun, Yansong Bai, Bowen Du, Chuanren Liu, Hui Xiong, and Weifeng Lv*
- Group-Aware Long- and Short-Term Graph Representation Learning for Sequential Group Recommendation. *Wen Wang, Wei Zhang, Jun Rao, Zhijie Qiu, Bo Zhang, Leyu Lin, and Hongyuan Zha*
- Time Matters: Sequential Recommendation with Complex Temporal Information. *Wenwen Ye, Shuaiqiang Wang, Xu Chen, Xuepeng Wang, Zheng Qin, and Dawei Yin*
- Parameter-Efficient Transfer from Sequential Behaviors for User Modeling and Recommendation. *Fajie Yuan, Xiangnan He, Alexandros Karatzoglou, and Liguang Zhang*
- How to Retrain a Recommender System? *Yang Zhang, Xiangnan He, Fuli Feng, Chenxu Wang, Meng Wang, Yan Li, and Yongdong Zhang*

Industrial Session VI (July 29, 15:40-17:40)

Chair: Elad Yom-Tov (Microsoft Research)

Room: Microsoft

- Network on Network for Tabular Data Classification in Real-world Applications, *Yuanfei Luo, Hao Zhou, Weiwei Tu, Yuqiang Chen, Wenyuan Dai, and Qiang Yang*
- Identifying Tasks from Mobile App Usage Patterns. *Yuan Tian, Ke Zhou, Mounia Lalmas, and Dan Pelleg*
- Efficient Image Gallery Representations at Scale through Multi-task Learning. *Benjamin Gutelman and Pavel Levin*

Conference Closing and Business Meeting (July 29, 21:00-24:00)**Room:** Xi'an

SIGIR'20 Short/Demo/TOIS Paper Session I

July 27, 20:00 – 22:00 (Time Zone: UTC+8)

Room: Daming Palace

Short Paper Session I

SP1	Dynamic Clustering with Discrete Time Event Prediction	<i>Karan Aggarwal, Georgios Theodorou, and Anup Rao</i>
SP2	Leveraging Transitions of Emotions for Sarcasm Detection	<i>Ameeta Agrawal, Aijun An, and Manos Papagelis</i>
SP3	JointMap: Joint Query Intent Understanding for Modeling Intent Hierarchies in E-commerce Search	<i>Ali Ahmadvand, Surya Kallumadi, Faizan Javed, and Eugene Agichtein</i>
SP4	Choppy: Cut Transformers for Ranked List Truncation	<i>Dara Bahri, Yi Tay, Che Zheng, Don Metzler, and Andrew Tomkins</i>
SP5	Studying Ransomware Attacks Using Web Search Logs	<i>Chetan Bansal, Pantazis Deligiannis, Chandra Sekhar Maddila, and Nikitha Rao</i>
SP6	A Transformer-based Embedding Model for Personalized Product Search	<i>Keping Bi, Qingyao Ai, and W. Bruce Croft</i>
SP7	Balancing Reinforcement Learning Training Experiences in Interactive Information Retrieval	<i>Limin Chen, Zhiwen Tang, and Grace Hui Yang</i>
SP8	Metadata Matters in User Engagement Prediction	<i>Xiang Chen, Saayan Mitra, and Viswanathan Swaminathan</i>
SP9	Context-Aware Term Weighting for First-Stage Passage Retrieval	<i>Zhuyun Dai and Jamie Callan</i>
SP10	Summarizing and Exploring Tabular Data in Conversational Search	<i>Zhuyun Dai, Shuo Zhang, Krisztian Balog, and Jamie Callan</i>
SP11	Leveraging Adversarial Training in Self-Learning for Cross-Lingual Text Classification	<i>Xin Dong, Yaxin Zhu, Yupeng Zhang, Zuohui Fu, Dongkuan Xu, Sen Yang, and Gerard de Melo</i>
SP12	Response Quality in Human-Chatbot Collaborative Systems	<i>Jiepu Jiang and Naman Ahuja</i>
SP13	High-Precision Extraction of Emerging Concepts from Scientific Literature	<i>Daniel King, Doug Downey, and Daniel S. Weld</i>
SP14	Video Recommendation with Multi-gate Mixture of Experts Soft Actor Critic	<i>Dingcheng Li, Xu Li, Jun Wang, and Ping Li</i>
SH15	Auto-annotation for Voice-enabled Entertainment Systems	<i>Wenyan Li and Ferhan Ture</i>
SP16	Domain Adaptation with Reconstruction for Disaster Tweet Classification	<i>Xukun Li and Doina Caragea</i>
SP17	Recipe Retrieval with Visual Query of Ingredients	<i>Yen-Chieh Lien, Hamed Zamani, and Bruce Croft</i>
SP18	Alleviating the Inconsistency Problem of Applying Graph Neural Network to Fraud Detection	<i>Zhiwei Liu, Yingtong Dou, Yutong Deng, Hao Peng, and Philip Yu</i>
SP19	Expansion via Prediction of Importance with Contextualization	<i>Sean MacAvaney, Franco Maria Nardini, Raffaele Perego, Nicola Tonello, Nazli Goharian, and Ophir Frieder</i>
SP20	Reranking for Efficient Transformer-based	<i>Yoshitomo Matsubara, Thuy Vu, and Alessandro</i>

- Answer Selection
- SP21 Combining contextualized and non-contextualized query translations to improve CLIR
Moschitti
Suraj Nair, Petra Galuščáková, and Douglas Oard
- SP22 Proactive Suggestion Generation: Data and Methods for Stepwise Task Assistance
Elnaz Nouri, Ryen White, Robert Sim, and Adam Fourney
- SP23 Contextual Re-Ranking with Behavior Aware Transformers
Chen Qu, Chenyan Xiong, Yizhe Zhang, Corby Rosset, W. Bruce Croft, and Paul Bennett
- SP24 Towards Explainable Retrieval Models for Precision Medicine Literature Search
Jiaming Qu, Jaime Arguello, and Yue Wang
- SP25 Search Result Explanations Improve Efficiency and Trust
Jerome Ramos and Carsten Eickhoff
- SP26 Query by Example for Cross-Lingual Event Retrieval
Sheikh Muhammad Sarwar and James Allan
- SP27 A Test Collection for Relevance and Sensitivity
Mahmoud Sayed, William Cox, Jonah Lynn Rivera, Caitlin Christian-Lamb, Modassir Iqbal, Douglas Oard, and Katie Shilton
Dominic Seyler and Chengxiang Zhai
- SP28 A Study of Methods for the Generation of Domain-Aware Word Embeddings
Christophe Van Gysel, Manos Tsagkias, Ernest Pusateri, and Ilya Oparin
- SP29 Predicting Entity Popularity to Improve Spoken Entity Recognition by Virtual Assistants
Soumya Wadhwa, Saurabh Agrawal, Harsh Chaudhari, Deepthi Sharma, and Kannan Achan
- SP30 Data Poisoning Attacks against Differentially Private Recommender Systems
Austin Ward and Rob Capra
- SP31 Immersive Search: Using Virtual Reality to Examine How a Third Dimension Impacts the Searching Process
Vikas Yadav, Steven Bethard, and Mihai Surdeanu
- SP32 Having Your Cake and Eating it Too: Training Neural Retrieval for Language Inference without Losing Lexical Match
Carl Yang, Jieyu Zhang, Haonan Wang, Bangzheng Li, and Jiawei Han
- SP33 Neural Concept Map Generation for Effective Document Classification with Interpretable Structured Summarization
Yingrui Yang, Christopher Miller, Peng Jiang, and Azadeh Moghtaderi
- SP34 A Case Study of Multi-class Classification with Diversified Precision Recall Requirements for Query Disambiguation
Puxuan Yu and James Allan
- SP35 A Study of Neural Matching Models for Cross-lingual IR
Cheng Zheng, Jyun-Yu Jiang, Yichao Zhou, Sean Young, and Wei Wang
- SP36 Social Media User Geolocation via Hybrid Attention
Jianling Zhong, Weiwei Guo, Huiji Gao, and Bo Long
- SP37 Personalized Query Suggestions
Honglei Zhuang, Xuanhui Wang, Michael Bendersky, and Marc Najork
- SP38 Feature Transformation for Neural Ranking Models
Chaitanya Bhatia, Tribikram Pradhan, and Sukomal Pal
- SP39 MetaGen: An academic meta-review generation system
Paheli Bhattacharya, Kripabandhu Ghosh, Arindam Pal, and Saptarshi Ghosh
- SP40 Hier-SPCNet: A Legal Statute Hierarchy-based Heterogeneous Network for Computing Legal Document Similarity

- SP41 DCDIR: A Deep Cross-Domain Recommendation System for Cold Start Users in Insurance Domain *Ye Bi, Liqiang Song, Mengqiu Yao, Zhenyu Wu, Jianming Wang, and Jing Xiao*
- SP42 A Pairwise Probe for Understanding BERT Fine-Tuning on Machine Reading Comprehension *Jie Cai, Ping Nie, and Qian Liu*
- SP43 Adversarial Attack and Detection on Reinforcement Learning based Recommendation System *Yuanjiang Cao, Xiaocong Chen, Lina Yao, Xianzhi Wang, and Wei Emma Zhang*
- SP44 Bundle Recommendation with Graph Convolutional Networks *Jianxin Chang, Chen Gao, Xiangnan He, Yong Li, and Depeng Jin*
- SP45 Re-ranking Answer Selection with Similarity Aggregation *Dong Chen, Shaoliang Peng, Kenli Li, Ying Xu, and Jinglin Zhang*
- SP46 JIT²R: A Joint Framework for Item Tagging and Tag-based Recommendation *Xu Chen, Changying Du, Xiuqiang He, and Jun Wang*
- SP47 Attending to Inter-sentential Features in Neural Text Classification *Billy Chiu, Sunil Sahu, Neha Sengupta, Derek Thomas, and Mohammady Mahdy*
- SP48 Retrieving Potential Causes from a Query Event *Suchana Datta, Debasis Ganguly, Dwaipayan Roy, Francesca Bonin, Charles Jochim, and Mandar Mitra*
- SP49 Bridging Hierarchical and Sequential Context Modeling for Question-driven Extractive Answer Summarization *Yang Deng, Wenxuan Zhang, Yaliang Li, Min Yang, Wai Lam, and Ying Shen*
- SP50 MGNN: A Multimodal Graph Neural Network for Predicting the Survival of Cancer Patients *Jianliang Gao, Tengfei Lyu, Fan Xiong, Jianxin Wang, and Zhao Li*
- SP51 On A Unified Neural Mechanism to Search Over A Corpus of Graphs *Kunal Goyal, Utkarsh Gupta, Abir De, and Soumen Chakrabarti*
- SP52 Session-based Recommendation with Hierarchical Leaping Networks *Cheng Guo, Mengfei Zhang, Jinyun Fang, Jiaqi Jin, and Mao Pan*
- SP53 Multi-Branch Convolutional Network for Context-Aware Recommendation *Wei Guo, Can Zhang, Huifeng Guo, Ruiming Tang, and Xiuqiang He*
- SP54 Predicting Session Length for Product Search on E-commerce Platform *Shashank Gupta and Subhadeep Maji*
- SP55 Dynamic Link Prediction by Integrating Node Vector Evolution and Local Neighborhood Representation *Xiaorong Hao, Tao Lian, and Li Wang*
- SP56 Nonintrusive-Sensing and Reinforcement-Learning Based Adaptive Personalized Music Recommendation *D Hong, L Miao, and Y Li*
- SP57 Residual-Duet Network with Tree Dependency Representation for Chinese Question-Answering Sentiment Analysis *Guangyi Hu, Chongyang Shi, Shufeng Hao, and Yu Bai*
- SP58 Neural Mathematical Solver with Enhanced Formula Structure *Zhenya Huang, Qi Liu, Weibo Gao, Jinze Wu, Yu Yin, Hao Wang, and Enhong Chen*
- SP59 Detecting Concept Drift in Medical Triage *Hamish Huggard, Yun Sing Koh, Gillian Dobbie, and Edmond Zhang*
- SP60 Evidence Weighted Tree Ensembles for Text Classification *Md Zahidul Islam, Jixue Liu, Jiuyong Li, Lin Liu, and Wei Kang*

SP61	Graph Regularization for Multi-lingual Topic Models	<i>Arnav Kumar Jain, Gundeep Arora, and Rahul Agrawal</i>
SP62	Multi-Modal Summary Generation using Multi-objective Optimization	<i>Anubhav Jangra, Sriparna Saha, Adam Jatowt, and Mohammed Hasanuzzaman</i>
SP63	A Re-visit of Popularity Baseline in Recommender Systems	<i>Yitong Ji, Aixin Sun, Jie Zhang, and Chenliang Li</i>
SP64	Training Mixed-Objective Pointing Decoders for Block-Level Optimization in Search Recommendation	<i>Harsh Kohli</i>
SP65	Reinforcement Learning based Recommendation with Graph Convolutional Q-network	<i>Yu Lei, Hongbin Pei, Hanqi Yan, and Wenjie Li</i>
SP66	Crowdsourced Text Sequence Aggregation based on Hybrid Reliability and Representation	<i>Jiyi Li</i>
SP67	MRIF: Multi-resolution Interest Fusion for Recommendation	<i>Shihao Li, Dekun Yang, and Bufeng Zhang</i>
SP68	Joint Training Capsule Network for Cold Start Recommendation	<i>Tingting Liang, Congying Xia, Yuyu Yin, and Philip Yu</i>
SP69	Copula Guided Neural Topic Modelling for Short Texts	<i>Lihui Lin, Hongyu Jiang, and Yanghui Rao</i>
SP70	Soft Kernel-based Ranking on a Statistical Manifold	<i>Xinshi Lin and Wai Lam</i>
SP71	Multi-Level Multimodal Transformer Network for Multimodal Recipe Comprehension	<i>Ao Liu, Shuai Yuan, Chenbin Zhang, Congjian Luo, Yaqing Liao, Kun Bai, and Zenglin Xu</i>
SP72	Chinese document classification with bi-directional convolutional language model	<i>Bin Liu and Guosheng Yin</i>
SP73	Neural Unified Review Recommendation with Cross Attention	<i>Hongtao Liu, Wenjun Wang, Hongyan Xu, Qiyao Peng, and Pengfei Jiao</i>
SP74	Goal-oriented Chatbots with Hierarchical Reinforcement Learning	<i>Jianfeng Liu, Feiyang Pan, and Ling Luo</i>
SP75	CapableOf reasoning: A step towards commonsense oracle	<i>Jingping Liu, Yanghua Xiao, Ao Wang, Liang He, and Bin Shao</i>
SP76	Interactive Entity Linking Using Entity-Word Representations	<i>Pei-Chi Lo and Ee-Peng Lim</i>
SP77	Improving Contextual Language Models for Response Retrieval in Multi-Turn Conversation	<i>Junyu Lu, Xiancong Ren, Yazhou Ren, Ao Liu, and Zenglin Xu</i>

Demonstration Paper Session I

DE1	A Lightweight Environment for Learning Experimental IR Research Practices	<i>Zeynep Akkalyoncu Yilmaz, Charles Clarke, and Jimmy Lin</i>
DE2	BRENDa: Browser Extension for Fake News Detection	<i>Bjarte Botnevik, Eirik Sakariassen, and Vinay Setty</i>
DE3	Agent Dialogue: A Platform for Conversational Information Seeking Experimentation	<i>Adam Czyzewski, Jeffrey Dalton, and Anton Leuski</i>
DE4	DataMirror: Reflecting on One's Data Self (A Tool for Social Media Users to explore their Digital	<i>Amal Htait, Leif Azzopardi, Emma Nicol, and Wendy Moncur</i>

- Footprints)
- DE5 Conversational Question Answering over Passages by Leveraging Word Proximity Networks *Magdalena Kaiser, Rishiraj Saha Roy, and Gerhard Weikum*
- DE6 FigExplorer: A System for Retrieval and Exploration of Figures from Collections of Research Articles *Saar Kuzi, Chengxiang Zhai, Yin Tian, and Haichuan Tang*
- DE7 APS: An Active PubMed Search System for Technology Assisted Review *Dan Li, Panagiotis Zafeiriadis, and Evangelos Kanoulas*
- DE8 Systematic Review Automation Tools for End-to-End Query Formulation *Hang Li, Harrison Scells, and Guido Zuccon*
- DE9 Deep Job Understanding at LinkedIn *Shan Li, Baoxu Shi, Jaewon Yang, Yan Ji, Shuai Wang, Fei Chen, and Qi He*
- DE10 Supporting Interoperability Between Open-Source Search Engines with the Common Index File Format *Jimmy Lin, Joel Mackenzie, Chris Kamphuis, Craig Macdonald, Antonio Mallia, Michal Siedlaczek, Andrew Trotman, and Arjen de Vries*
- DE11 Web of Scholars: A Scholar Knowledge Graph *Jiaying Liu, Jing Ren, Wenqing Zheng, Lianhua Chi, Ivan Lee, and Feng Xia*

TOIS Paper Session I

- TO1 Binary Sketches for Secondary Filtering *Vladimir Mic, David Novak, and Pavel Zezula*
- TO2 Efficient Learning-Based Recommendation Algorithms for Top-N Tasks and Top-N Workers in Large-Scale Crowdsourcing Systems *Mejdl Safran and Dunren Che*
- TO3 A Deep Bayesian Tensor-Based System for Video Recommendation *Wei Lu, Fu-Lai Chung, Wenhao Jiang, Martin Ester, and Wei Liu*
- TO4 Transfer to Rank for Heterogeneous One-Class Collaborative Filtering *Weike Pan, Qiang Yang, Wanling Cai, Yaofeng Chen, Qing Zhang, Xiaogang Peng, Zhong Ming Xu Chen, Yongfeng Zhang, Hongteng Xu, Zheng Qin, and Hongyuan Zha*
- TO5 Adversarial Distillation for Efficient Recommendation with External Knowledge *Xinyi Li, Yifan Chen, Benjamin Pettit, and Maarten de Rijke*
- TO6 Personalised Reranking of Paper Recommendations Using Paper Content and User Behavior *Feng Xue, Xiangnan He, Xiang Wang, Jiandong Xu, Kai Liu, and Richang Hong*
- TO7 Deep Item-based Collaborative Filtering for Top-N Recommendation *Wanyu Chen, Fei Cai, Honghui Chen, and Maarten de Rijke*
- TO8 Joint Neural Collaborative Filtering for Recommender Systems *Xiao Lin, Min Zhang, Yiqun Liu, and Shaoping Ma*
- TO9 Enhancing Personalized Recommendation by Implicit Preference Communities Modeling *Jungkyu Han and Hayato Yamana*
- TO10 Geographic Diversification of Recommended POIs in Frequently Visited Areas *Dong Zhang, Shu Zhao, Zhen Duan, Jie Chen, Yanping Zhang, and Jie Tang*
- TO11 A Multi-Label Classification Method Using a Hierarchical and Transparent Representation for Paper-Reviewer Recommendation *Zijie Zeng, Jing Lin, Lin Li, Weike Pan, and Zhong Ming*
- TO12 Next-Item Recommendation via Collaborative Filtering with Bidirectional Item Similarity

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| TO13 | Improving Implicit Recommender Systems with Auxiliary Data | <i>Jingtao Ding, Guanghui Yu, Yong Li, Xiangnan He, and Depeng Jin</i> |
| TO14 | Local Variational Feature-Based Similarity Models for Recommending Top-N New Items | <i>Yifan Chen, Yang Wang, Xiang Zhao, Hongzhi Yin, Ilya Markov, Maarten de Rijke</i> |
| TO15 | Efficient Neural Matrix Factorization without Sampling for Recommendation | <i>Chong Chen, Min Zhang, Yongfeng Zhang, Yiqun Liu, Shaoping Ma</i> |
| TO16 | An Enhanced Neural Network Approach to Person-Job Fit in Talent Recruitment | <i>Chuan Qin, Hengshu Zhu, Tong Xu, Chen Zhu, Chao Ma, Enhong Chen, and Hui Xiong</i> |
| TO17 | From Question to Text: Question-Oriented Feature Attention for Answer Selection | <i>Heyan Huang, Xiaochi Wei, Liqiang Nie, Xianling Mao, and Xin-Shun Xu</i> |
| TO18 | Jointly Minimizing the Expected Costs of Review for Responsiveness and Privilege in E-Discovery | <i>Douglas W. Oard, Fabrizio Sebastiani, and Jyothi K. Vinjumur</i> |
| TO19 | Fine-grained Geolocation of Tweets in Temporal Proximity | <i>Wen-Haw Chong and Ee-Peng Lim</i> |
| TO20 | Learning from Multi-annotator Data: A Noise-aware Classification Framework | <i>Xueying Zhan, Yaowei Wang, Yanghui Rao, and Qing Li</i> |
| TO21 | A Deep Learning Architecture for Psychometric Natural Language Processing | <i>Faizan Ahmad, Ahmed Abbasi, Jingjing Li, David G. Dobolyi, Richard G. Netemeyer, Gari D. Clifford, and Hsinchun Chen</i> |
| TO22 | Jointly Learning Representations of Nodes and Attributes for Attributed Networks | <i>Zaiqiao Meng, Shangsong Liang, Xiangliang Zhang, Richard McCreadie, and Iadh Ounis</i> |
| TO23 | Learning Semantic Representations from Directed Social Links to Tag Microblog Users at Scale | <i>Wayne Xin Zhao, Yupeng Hou, Junhua Chen, Jonathan J. H. Zhu, Eddy Jing Yin, Hanting Su, and Ji-Rong Wen</i> |
| TO24 | OutdoorSent: Sentiment Analysis of Urban Outdoor Images by Using Semantic and Deep Features | <i>Wyverson Bonasoli de Oliveira, Leyza Baldo Dorini, Rodrigo Minetto, Thiago H. Silva</i> |

SIGIR'20 Short/Demo/TOIS Paper Session II

July 28, 20:00 – 22:00 (Time Zone: UTC+8)

Room: Daming Palace

Short Paper Session II

SP78	Differentially Private Knowledge Distillation for Mobile Analytics	<i>Lingjuan Lyu and Chi-Hua Chen</i>
SP79	Towards Differentially Private Text Representations	<i>Lingjuan Lyu, Yitong Li, Xuanli He, and Tong Xiao</i>
SP80	Large-scale Image Retrieval with Sparse Binary Projections	<i>Changyi Ma, Chonglin Gu, Wenye Li, and Shuguang Cui</i>
SP81	Efficiency Implications of Term Re-Weighting for Passage Retrieval	<i>Joel Mackenzie, Zhuyun Dai, Luke Gallagher, and Jamie Callan</i>
SP82	Read what you need: Controllable Aspect-based Opinion Summarization of Tourist Reviews	<i>Rajdeep Mukherjee, Hari Chandana Peruri, Uppada Vishnu, Pawan Goyal, Sourangshu Bhattacharya, and Niloy Ganguly</i>
SP83	DC-BERT: Decoupling Question and Document for Efficient Contextual Encoding	<i>Ping Nie, Yuyu Zhang, Xiubo Geng, Ramamurthy Arun, Le Song, and Daxin Jiang</i>
SP84	An Intent-guided Collaborative Machine for Session-based Recommendation	<i>Zhiqiang Pan, Fei Cai, Yanxiang Ling, and Maarten de Rijke</i>
SP85	Rethinking Item Importance in Session-based Recommendation	<i>Zhiqiang Pan, Fei Cai, Yanxiang Ling, and Maarten de Rijke</i>
SP86	MHM: Multi-modal Clinical Data based Hierarchical Multi-label Diagnosis Prediction	<i>Zhi Qiao, Zhen Zhang, Xian Wu, Shen Ge, and Wei Fan</i>
SP87	How Useful are Reviews for Recommendation? A Critical Review and Potential Improvements	<i>Noveen Sachdeva and Julian McAuley</i>
SP88	Dual Learning Algorithm for Delayed Conversions	<i>Yuta Saito, Gota Morishita, and Shota Yasui</i>
SP89	Evaluation of Cross Domain Text Summarization	<i>Liam Scanlon, Shiwei Zhang, Xiuzhen Jenny Zhang, and Mark Sanderson</i>
SP90	Convolutional Knowledge Tracing: Modeling Individualization in Student Learning Process	<i>Shuanghong Shen, Qi Liu, Enhong Chen, Han Wu, Zhenya Huang, Weihao Zhao, Yu Su, Haiping Ma, and Shijin Wang</i>
SP91	G2T: Generating Fluent Descriptions for Knowledge Graph	<i>Yunzhou Shi, Zhiling Luo, Pengcheng Zhu, Feng Ji, Wei Zhou, Haiqing Chen, and Yujiu Yang</i>
SP92	Improving Matching Models with Hierarchical Contextualized Representations for Multi-turn Response Selection	<i>Chongyang Tao, Wei Wu, Yansong Feng, Dongyan Zhao, and Rui Yan</i>
SP93	Visual Intents vs. Clicks, Likes, and Purchases in E-commerce	<i>Riku Togashi and Tetsuya Sakai</i>
SP94	MVL: Multi-View Learning for News Recommendation	<i>Santosh Tokala Yaswanth Sri Sai, Avirup Saha, and Niloy Ganguly</i>
SP95	Query/Task Satisfaction and Grid-based Evaluation Metrics Under Different Image Search Intents	<i>Kosetsu Tsukuda and Masataka Goto</i>
SP96	Learning Discriminative Joint Embeddings for	<i>Rui Wang, Xin Liu, Yiu-Ming Cheung, Shu-Juan</i>

- Efficient Face and Voice Association
- SP97 TFNet: Multi-Semantic Feature Interaction for CTR Prediction
- SP98 Investigating reading behavior in Fine-grained Relevance Judgment
- SP99 Neural Hierarchical Factorization Machines for User's Event Sequence Analysis
- SP100 Label-Consistency based Graph Neural Networks for Semi-supervised Node Classification
- SP101 Symmetric Regularization based BERT for Pair-wise Semantic Reasoning
- SP102 Deep Interest with Hierarchical Attention Network for Click-Through Rate Prediction
- SP103 A Knowledge-Enhanced Recommendation Model with Attribute-Level Co-Attention
- SP104 Multi-source Domain Adaptation for Sentiment Classification with Granger Causal Inference
- SP105 TADS: Learning Time-Aware Scheduling Policy with Dyna-Style Planning for Spaced Repetition
- SP106 TAGNN: Target Attentive Graph Neural Networks for Session-based Recommendation
- SP107 Query Classification with Multi-objective Backoff Optimization
- SP108 Influence Function for Unbiased Recommendation
- SP109 Few-Shot Generative Conversational Query Rewriting
- SP110 User-Inspired Posterior Network for Recommendation Reason Generation
- SP111 An analysis of BERT in document ranking
- SP112 Read, Attend, and Exclude: Multi-Choice Reading Comprehension by Mimicking Human Reasoning Process
- SP113 Unsupervised Text Summarization with Sentence Graph Compression
- SP114 Improving Neural Chinese Word Segmentation with Lexicon-enhanced Adaptive Attention
- SP115 Sentiment-guided Sequential Recommendation
- SP116 L2R2: Leveraging Ranking for Abductive Reasoning
- SP117 Automatic Generation of Topic Labels
- Peng, Nannan Wang, and Wentao Fan*
- Shu Wu, Feng Yu, Xueli Yu, Qiang Liu, Liang Wang, Tieniu Tan, Jie Shao, and Fan Huang*
- Zhijing Wu, Jiaxin Mao, Yiqun Liu, Min Zhang, and Shaoping Ma*
- Dongbo Xi, Fuzhen Zhuang, Bowen Song, Yongchun Zhu, Shuai Chen, Dan Hong, Tao Chen, Xi Gu, and Qing He*
- Bingbing Xu, Junjie Huang, Liang Hou, Huawei Shen, Jinhua Gao, and Xueqi Cheng*
- Weidi Xu, Kunlong Chen, Xingyi Cheng, and Taifeng Wang*
- Weinan Xu, Hengxu He, Minshi Tan, Yunming Li, Jun Lang, and Dongbai Guo*
- Deqing Yang, Zengchun Song, Lvxin Xue, and Yanghua Xiao*
- Min Yang, Ying Shen, Xiaojun Chen, and Chengming Li*
- Zhengyu Yang, Jian Shen, Yunfei Liu, Yang Yang, Weinan Zhang, and Yong Yu*
- Feng Yu, Yanqiao Zhu, Qiang Liu, Shu Wu, Liang Wang, and Tieniu Tan*
- Hang Yu and Lester Litchfield*
- Jiangxing Yu, Hong Zhu, Chihyao Chang, Xinhua Feng, Bo-Wen Yuan, Xiuqiang He, and Zhenhua Dong*
- Shi Yu, Jiahua Liu, Jingqin Yang, Chenyan Xiong, Paul Bennett, Jianfeng Gao, and Zhiyuan Liu*
- Haolan Zhan, Hainan Zhang, Hongshen Chen, Lei Shen, Yanyan Lan, Zhuoye Ding, and Dawei Yin*
- Jingtao Zhan, Jiaxin Mao, Yiqun Liu, Min Zhang, and Shaoping Ma*
- Chebin Zhang, Congjian Luo, Junyu Lu, Ao Liu, Bing Bai, and Zenglin Xu*
- Jinming Zhao, Ming Liu, Yuan Jin, He Zhao, Lan Du, He Zhang, Longxiang Gao, and Gholamreza Haffari*
- Xiaoyan Zhao, Min Yang, Qiang Qu, and Yang Sun*
- Lin Zheng, Naicheng Guo, Weihao Chen, Jin Yu, and Dazhi Jiang*
- Yunchang Zhu, Liang Pang, Yanyan Lan, and Xueqi Cheng*
- Areej Alokaili, Nikolaos Aletras, and Mark Stevenson*

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|-------|---|--|
| SP118 | Extractive Snippet Generation for Arguments | <i>Milad Alshomary, Nick Duesterhus, and Henning Wachsmuth</i> |
| SP119 | Proposal and comparison of health specific features for the automatic assessment of readability | <i>Hélder Antunes and Carla Teixeira Lopes</i> |
| SP120 | MarkedBERT: Integrating Traditional IR cues in pre-trained language models for passage retrieval | <i>Lila Boualili, Jose Moreno, and Boughanem Mohand</i> |
| SP121 | Relevance Models for Multi-Contextual Appropriateness in Points-Of-Interest Recommendation | <i>Anirban Chakraborty, Debasis Ganguly, and Owen Conlan</i> |
| SP122 | CAst-19: A Dataset for Research on Conversational Information Seeking | <i>Jeffrey Dalton, Chenyan Xiong, Vaibhav Kumar, and Jamie Callan</i> |
| SP123 | Predicting Perceptual Speed from Search Behaviour | <i>Olivia Foulds, Alessandro Suglia, Leif Azzopardi, and Martin Halvey</i> |
| SP124 | Learning Term Discrimination | <i>Jibril Frej, Didier Schwab, Philippe Mulhem, and Jean-Pierre Chevallet</i> |
| SP125 | Sampling Bias Due to Near-Duplicates in Learning to Rank | <i>Maik Fröbe, Janek Bevendorff, Jan Heinrich Reimer, Martin Potthast, and Matthias Hagen</i> |
| SP126 | Enhancing Recommendation Diversity using Determinantal Point Processes on Knowledge Graphs | <i>Lu Gan, Diana Nurbakova, Léa Laporte, and Sylvie Calabretto</i> |
| SP127 | Relevance Transformer: Generating Concise Code Snippets with Relevance Feedback | <i>Carlos Gemmell, Jeffrey Dalton, and Federico Rossetto</i> |
| SP128 | Unsupervised Semantic Hashing with Pairwise Reconstruction | <i>Casper Hansen, Christian Hansen, Jakob Grue Simonsen, Stephen Alstrup, and Christina Lioma</i> |
| SP129 | Factuality Checking in News Headlines with Eye Tracking | <i>Christian Hansen, Casper Hansen, Jakob Grue Simonsen, Birger Larsen, Stephen Alstrup, and Christina Lioma</i> |
| SP130 | ArTest: The First Test Collection for Arabic Web Search with Relevance Rationales | <i>Maram Hasanain, Yasmine Barkallah, Reem Suwaileh, Mucahid Kutlu, and Tamer Elsayed</i> |
| SP131 | Improving Document-Level Text Retrieval using Local Attention in the Transformer-Kernel Pooling Model | <i>Sebastian Hofstätter, Hamed Zamani, Bhaskar Mitra, Nick Craswell, and Allan Hanbury</i> |
| SP132 | Using Exploration to Alleviate Closed-Loop Effects in Recommender Systems | <i>Amir H. Jadidinejad, Craig Macdonald, and Iadh Ounis</i> |
| SP133 | A Heterogeneous Graph Neural Model for Cold-Start Recommendation | <i>Siwei Liu, Iadh Ounis, Craig Macdonald, and Zaiqiao Meng</i> |
| SP134 | Query-level Early Exit for Additive Learning-to-Rank Ensembles | <i>Claudio Lucchese, Franco Maria Nardini, Salvatore Orlando, Raffaele Perego, and Salvatore Trani</i> |
| SP135 | Segmenting search query logs by learning to detect search task boundaries | <i>Luis Lugo, Jose Moreno, and Gilles Hubert</i> |
| SP136 | A multilingual approach for unsupervised search task identification | <i>Luis Lugo, Jose Moreno, and Gilles Hubert</i> |
| SP137 | Sequential-based Adversarial Optimisation for Personalised Top-N Item Recommendation | <i>Jarana Manotumruksa and Emine Yilmaz</i> |

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| SP138 | CrossBERT with Triplet Neural Architecture for Entity Property Ranking | <i>Jarana Manotumruksa, Jeff Dalton, Edgar Meij, and Emine Yilmaz</i> |
| SP139 | Active Learning Stopping Strategies for Technology-Assisted Sensitivity Review | <i>Graham McDonald, Craig Macdonald, and Iadh Ounis</i> |
| SP140 | Topic Propagation in Conversational Search | <i>Ida Mele, Cristina Ioana Muntean, Franco Maria Nardini, Raffaele Perego, Nicola Tonello, and Ophir Frieder</i> |
| SP141 | Reputation (In)dependence in Ranking Systems: Demographics Influence Over Output Disparities | <i>Guilherme Ramos and Ludovico Boratto</i> |
| SP142 | Do Neural Ranking Models Intensify Gender Bias? | <i>Navid Rekabsaz and Markus Schedl</i> |
| SP143 | The Curious Case of IR Explainability: Explaining Document Scores within and across Ranking Models | <i>Procheta Sen, Manisha Verma, Debasis Ganguly, and Gareth Jones</i> |
| SP144 | Fair Classification with Counterfactual Learning | <i>Maryam Tavakol</i> |
| SP145 | Multi-grouping Robust Fair Ranking | <i>Thibaut Thonet and Renders Jean-Michel</i> |
| SP146 | Distilling Knowledge for fast retrieval-based chat-bots | <i>Amir Vakili Tahami, Kamyar Ghajar, and Azadeh Shakeri</i> |
| SP147 | An Analysis of Mixed Initiative and Collaboration in Information-Seeking Dialogues | <i>Svitlana Vakulenko, Evangelos Kanoulas, and Maarten de Rijke</i> |
| SP148 | Cascade Model-based Propensity Estimation for Counterfactual Learning to Rank | <i>Ali Vardasbi, Maarten de Rijke, and Ilya Markov</i> |
| SP149 | Studying Ranking-Incentivized Web Dynamics | <i>Ziv Vasilisky, Moshe Tennenholtz, and Oren Kurland</i> |
| SP150 | How UMass-FSD Inadvertently Leverages Temporal Bias | <i>Dominik Wurzer and Yumeng Qin</i> |
| SP151 | On the Reliability of Test Collections to Evaluating Systems of Different Types | <i>Emine Yilmaz, Nick Craswell, Bhaskar Mitra, and Daniel Campos</i> |
| SP152 | KLOOS: KL Divergence-based Out-of-Scope Intent Detection in Human-to-Machine Conversations | <i>Eyup Halit Yilmaz and Cagri Toraman</i> |
| SP153 | DEXA: Supporting Non-Expert Annotators with Dynamic Examples from Experts | <i>Markus Zlabinger, Marta Sabou, Sebastian Hofstätter, Mete Sertkan, and Allan Hanbury</i> |

Demonstration Paper Session II

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|------|---|--|
| DE12 | SPot: A tool for identifying operating segments in financial tables | <i>Zhiqiang Ma, Steven Pomerville, Mingyang Di, and Armineh Nourbakhsh</i> |
| DE13 | Receptor: A Platform for Exploring Latent Relations in Sensitive Documents | <i>Hitarth Narvala, Graham McDonald, and Iadh Ounis</i> |
| DE14 | FactCatch: Incremental Pay-as-You-Go Fact Checking with Minimal User Effort | <i>Thanh Tam Nguyen, Matthias Weidlich, Hongzhi Yin, Bolong Zheng, Quang Huy Nguyen, and Quoc Viet Hung Nguyen</i> |
| DE15 | WIRE: An Automated Report Generation System | <i>Yunseok Noh, Yongmin Shin, Junmo Park, A-</i> |

	using Topical and Temporal Summarization	<i>Yeong Kim, Su Jeong Choi, Hyun-Je Song, Seong-Bae Park, and Seyoung Park</i>
DE16	Experimaestro and Datamaestro: Experiment and Dataset Managers (for IR)	<i>Benjamin Piwowarski</i>
DE17	QuACHIE: Question Answering based Chinese Information Extraction System	<i>Dongyu Ru, Zhenghui Wang, Lin Qiu, Hao Zhou, Lei Li, Weinan Zhang, and Yong Yu</i>
DE18	Vis-Trec: A System for the In-depth Analysis of trec_eval Results	<i>Mahtab Tamannaee, Negar Arabzadeh, and Ebrahim Bagheri</i>
DE19	JASSjr: The Minimalistic BM25 Search Engine for Teaching and Learning Information Retrieval	<i>Andrew Trotman and Kat Lilly</i>
DE20	ServiceGroup: A Human-Machine Cooperation Solution for Group Chat Customer Service	<i>Minghui Yang, Hengbin Cui, Shaosheng Cao, Yafang Wang, and Xiaolong Li</i>
DE21	Macaw: An Extensible Conversational Information Seeking Platform	<i>Hamed Zamani and Nick Craswell</i>
DE22	REL: An Entity Linker Standing on the Shoulders of Giants	<i>Johannes M. van Hulst, Faegheh Hasibi, Koen Dercksen, Krisztian Balog, and Arjen P. de Vries</i>

TOIS Paper Session II

TO25	Learning to Adaptively Rank Document Retrieval System Configurations	<i>Romain Deveaud, Josiane Mothe, Md Zia Ullah, and Jian-Yun Nie</i>
TO26	Shallow and Deep Syntactic/Semantic Structures for Passage Reranking in Question-Answering Systems	<i>Kateryna Tymoshenko and Alessandro Moschitti</i>
TO27	SMAPH: A Piggyback Approach for Entity-Linking in Web Queries	<i>Marco Cornolti, Paolo Ferragina, Massimiliano Ciaramita, Stefan Rüd, and Hinrich Schütze</i>
TO28	Attentive Long Short-Term Preference Modeling for Personalized Product Search	<i>Yangyang Guo, Zhiyong Cheng, Liqiang Nie, Yinglong Wang, Jun Ma, and Mohan Kankanhalli</i>
TO29	ELSA: A Multilingual Document Summarization Algorithm Based on Frequent Itemsets and Latent Semantic Analysis	<i>Luca Cagliero, Paolo Garza, and Elena Baralis</i>
TO30	Risk-Sensitive Learning to Rank with Evolutionary Multi-Objective Feature Selection	<i>Daniel Xavier Sousa, Sérgio Canuto, Marcos André Gonçalves, Thierson Couto Rosa, and Wellington Santos Martins</i>
TO31	Temporal Relational Ranking for Stock Prediction	<i>Fuli Feng, Xiangnan He, Xiang Wang, Cheng Luo, Yiqun Liu, and Tat-Seng Chua</i>
TO32	On Annotation Methodologies for Image Search Evaluation	<i>Yunqiu Shao, Yiqun Liu, Fan Zhang, Min Zhang, and Shaoping Ma</i>
TO33	Using Collection Shards to Study Retrieval Performance Effect Sizes	<i>Nicola Ferro, Yubin Kim, and Mark Sanderson</i>
TO34	Does Diversity Affect User Satisfaction in Image Search	<i>Zhijing Wu, Ke Zhou, Yiqun Liu, Min Zhang, and Shaoping Ma</i>
TO35	The Effects of Working Memory, Perceptual Speed, and Inhibition in Aggregated Search	<i>Jaime Arguello and Bogeum Choi</i>
TO36	Boosting Search Performance Using Query Variations	<i>Rodger Benham, Joel Mackenzie, Alistair Moffat, and J. Shane Culpepper</i>

- TO37 Constructing Click Model for Mobile Search with Viewport Time *Yukun Zheng, Jiaxin Mao, Yiqun Liu, Cheng Luo, Min Zhang, and Shaoping Ma*
- TO38 Relevance Feedback: The Whole Is Inferior to the Sum of Its Parts *Fiana Raiber and Oren Kurland*
- TO39 Explainable Product Search with a Dynamic Relation Embedding Model *Qingyao Ai, Yongfeng Zhang, Keping Bi, and W. Bruce Croft*
- TO40 Investigating Searchers' Mental Models to Inform Search Explanations *Paul Thomas, Bodo Billerbeck, Nick Craswell, and Ryen W. White*
- TO41 Brotli: A General-Purpose Data Compressor *Jyrki Alakuijala, Andrea Farruggia, Paolo Ferragina, Eugene Kliuchnikov, Robert Obryk, Zoltan Szabadka, and Lode Vandevenne*
- TO42 Understanding Faceted Search from Data Science and Human Factor Perspectives *Xi Niu, Xiangyu Fan, and Tao Zhang*
- TO43 Handling Massive -Gram Datasets Efficiently *Giulio Ermanno Pibiri and Rossano Venturini*
- TO44 Funnelling: A New Ensemble Method for Heterogeneous Transfer Learning and Its Application to Cross-Lingual Text Classification *Andrea Esuli, Alejandro Moreo, and Fabrizio Sebastiani*
- TO45 A Price-per-attention Auction Scheme Using Mouse Cursor Information *Ioannis Arapakis, Antonio Penta, Hideo Joho, and Luis A. Leiva*
- TO46 Learning or Forgetting? A Dynamic Approach for Tracking the Knowledge Proficiency of Students *Zhenya Huang, Qi Liu, Yuying Chen, Le Wu, Keli Xiao, Enhong Chen, Haiping Ma, and Guoping Hu*
- TO47 Safe Exploration for Optimizing Contextual Bandits *Rolf Jagerman, Ilya Markov, Maarten de Rijke*

SIGIR'20 Summer School

Personalized Search

Speaker: Prof. Susan Dumais

Room: Epang Palace

Time: July 25, 8:00-9:30 (Time Zone: UTC+8)

Abstract

Traditionally Web search engines returned the same results to everyone who asks the same question. However, using a single ranking for everyone in every context at every point in time limits how well a search engine can do in providing relevant information. In this talk I present a framework to quantify the "potential for personalization" which is used to characterize the extent to which different people have different intents for the same query. I describe several examples of how different types of contextual features are represented and used to improve search quality for individuals and groups. Finally, I conclude by highlighting important challenges in developing personalized systems at Web scale including privacy, transparency, serendipity, and evaluation.

Biography

Susan Dumais is a Technical Fellow at Microsoft, Director of the Microsoft Research Labs in New England, New York City and Montréal, and an adjunct professor at the University of Washington. Prior to joining Microsoft, she was a Member of Technical Staff at Bell Labs where she developed Latent Semantic Analysis, an early word embedding technique for search. Her current research focuses on personalization, email search, and large-scale behavioral log analysis.

She has worked with several Microsoft product groups (Bing, Windows Search, SharePoint, and Office Help) on search-related innovations, and holds several patents on novel retrieval algorithms and interfaces. Susan has published widely in the fields of information retrieval, human-computer interaction, and cognitive science. She is an ACM Fellow, was elected to the CHI Academy, the SIGIR Academy, the National Academy of Engineering (NAE) and the American Academy of Arts and Sciences (AAAS), and received the SIGIR Gerard Salton Award for lifetime achievement in information retrieval, the ACM Athena Lecturer Award for fundamental contributions to computer science, the Tony Kent Strix Award for outstanding contributions to information retrieval, the ACM SIGCHI Lifetime Research Award for lifetime achievement in human-computer interaction, and the Lifetime Achievement Award from Indiana University Department of Psychological and Brain Science.

Natural Language Processing and Information Retrieval: Together at Last

Speaker: Prof. Jimmy Lin

Room: Epang Palace

Time: July 25, 9:30-11:00 (Time Zone: UTC+8)

Abstract

It is an intuitive hypothesis that techniques from natural language processing (NLP) should improve information retrieval (IR). Surely, attempts to understand the meaning of texts would help systems better provide users with relevant information? Yet, the history of IR is littered with ideas from NLP that intuitively "should work", but never panned out, at least with the implementations at the time. Two examples from the 1990s include word sense disambiguation (WSD) and linguistic indexing.

In this talk, I will discuss my own personal journey over the past two decades grappling with this hypothesis, culminating in recent advances in transformer architectures as applied to information access problems. BERT, the most famous of these models, is I believe the first NLP technique that has unequivocally improved information access. Thus, we are at an exciting and unique moment where NLP and IR have come together at last, producing a fertile research landscape full of interesting possibilities. In the hopes of stirring up some discussion, I'll offer the following slogan: NLP makes IR interesting and IR makes NLP useful.

Biography

Professor Jimmy Lin holds the David R. Cheriton Chair in the David R. Cheriton School of Computer Science at the University of Waterloo. Lin's research aims to build tools that help users make sense of large amounts of data. His work mostly lies at the intersection of information retrieval and natural language processing, with a focus on data-driven approaches and infrastructure issues. Although most of Lin's work deals with text, he's also worked on relational data, semi-structured data, log data, speech, and graphs. From 2010-2012, Lin spent an extended sabbatical at Twitter, where he worked on services designed to connect users with relevant content and analytics infrastructure to support data science. He currently serves as the Chief Scientist of RSVP.ai, a Waterloo-based startup that aims to build deep natural language understanding technologies to facilitate seamless dialogues between users and systems.

Recent Advances in Language Model Pre-training

Speaker: Prof. Luke Zettlemover

Room: Epang Palace

Time: July 25, 11:30-13:00 (Time Zone: UTC+8)

Abstract

Language models can be pre-trained at a very large scale by noising and then reconstructing any input text. Existing methods, based on variations of masked languages models, have transformed the field and now provide the de facto initialization to be tuned for nearly any NLP task. In this tutorial, I will review recent work in language model pretraining, from ELMo and BERT to more recent models. I will aim for broad coverage but provide more details on the models we have been developing recently in FAIR Seattle. These including in particular pre-training methods for sequence-to-sequence model, such as BART, mBART, and MARGE, which provide some of the most generally applicable approaches to date.

Biography

Luke Zettlemoyer is a Professor in the Paul G. Allen School of Computer Science & Engineering at the University of Washington, and a Research Scientist at Facebook. His research focuses on empirical methods for natural language semantics, and involves designing machine learning algorithms, introducing new tasks and datasets, and, most recently, studying how to best develop self-supervision signals for pre-training. Honors include multiple paper awards, a PECASE award, and an Allen Distinguished Investigator Award. Luke received his PhD from MIT and was a postdoc at the University of Edinburgh.

Offline Evaluation of IR systems

Speaker: Prof. Mark Sanderson

Room: Epang Palace

Time: July 25, 15:00-16:30 (Time Zone: UTC+8)

Abstract

Evaluation of information retrieval (IR) systems is a critically important part of reporting in the IR research community. In this tutorial, I will provide an overview of the main offline and online techniques that are used to evaluate search engines. Topics covered in the tutorial will include the classic test collection based approach, statistical significance testing, user evaluation, ethics approval, AB testing, and the recent innovation in counterfactual evaluation, where offline collections can be induced from online click data. At the end of this tutorial, students will understand the principles, methods, and resources available for evaluation. I will also briefly discuss how users can get access to data to enable them to evaluate.

Biography

Mark Sanderson is Professor of Information Retrieval at RMIT University where he is head of the RMIT Information Retrieval (IR) group. Mark received his Ph.D. in Computer Science from the University of Glasgow, United Kingdom, in 1997. He has raised over \$10 million dollars in grant income, published hundreds of papers, and has over 9,000 citations to his work. He has 25 current and/or past PhD students. In collaboration with one student, Mark was the first show the value of snippets, a component of search interfaces which are now a standard feature of all search engines. One of Mark's papers was given an honourable mention at SIGIR's 2017 test of time awards. Mark has been co-editor of Foundations and Trends in Information Retrieval; associate editor of IEEE TKDE, ACM TOIS, ACM TWeb, and IP&M; and served on the editorial boards of IRJ and JASIST. Mark was general chair of ACM SIGIR in 2004. He was a PC chair of ACM SIGIR 2009 & 2012; and ACM CIKM 2017. Prof Sanderson is also a visiting professor at NII in Tokyo.

Information Retrieval as Interaction

Speaker: Prof. Maarten de Rijke

Room: Epang Palace

Time: July 25, 16:30-18:00 (Time Zone: UTC+8)

Abstract

Modern Information Retrieval (IR) systems, such as search engines, recommender systems, and conversational agents, are best thought of as interactive systems. And their development is best thought of as a two-stage development process: offline development followed by continued online adaptation and development based on interactions with users. In this lecture, I will sketch a rich landscape of offline and online topics that any student interested in IR system development should be familiar with. I will discuss IR scenarios such as search, recommender systems, conversational interaction, and topics such as query and interaction mining and understanding, offline, counterfactual and online evaluation, and offline, counterfactual and online learning to rank.

Biography

Maarten de Rijke is University Professor of Artificial Intelligence and Information Retrieval at the University of Amsterdam. He is also VP Personalization and Relevance and Senior Research Fellow at Ahold Delhaize. His research strives to build intelligent technology to connect people to information. His team pushes the frontiers of search engines, recommender systems and conversational assistants. They also investigate the influence of the technology they develop on society. De Rijke is the director of the Innovation Center for Artificial Intelligence.

Music recommendations (research) at Spotify

Speaker: Prof. Mounia Lalmas

Room: Epang Palace

Time: July 25, 20:00-21:30 (Time Zone: UTC+8)

Abstract

The aim of the Personalization mission at Spotify is “to match fans and artists in a personal and relevant way”. In this talk, I will describe some of the (research) work to achieve this, from using machine learning to metric validation and evaluation methodology. I will describe works done in the context of Home and Search.

Biography

Mounia Lalmas is a Director of Research at Spotify, and the Head of Tech Research in Personalization. Mounia also holds an honorary professorship at University College London. Before that, she was a Director of Research at Yahoo, where she led a team of researchers working on advertising quality for Gemini, Yahoo's native advertising platform. She also worked with various teams at Yahoo on topics related to user engagement in the context of news, search, and user generated content. Prior to this, she held a Microsoft Research/RAEng Research Chair at the School of Computing Science, University of Glasgow. Before that, she was Professor of Information Retrieval at the Department of Computer Science at Queen Mary, University of London. Her work focuses on studying user engagement in areas such as native advertising, digital media, social media, search, and now audio. She has given numerous talks and tutorials on these and related topics, including a WWW 2019 tutorial on 'Online User Engagement: Metrics and Optimization', which will also be given at KDD 2020. She is regularly a senior programme committee member at conferences such as WSDM, KDD, WWW and SIGIR. She was co-programme chair for SIGIR 2015, WWW 2018 and WSDM 2020. She is also the co-author of a book written as the outcome of her WWW 2013 tutorial on 'measuring user engagement'.

SIGIR'20 Social Event

Room: Weiyang Palace

Social Event I (July 26, 21:30-23:00; Time Zone: UTC+8)

Student Event I

Social Event II (July 27, 7:00-8:00; Time Zone: UTC+8)

Student Event II

Social Event III (July 27, 19:00-20:30; Time Zone: UTC+8)

Womin in IR – Session A

Social Event IV (July 28, 20:00-22:00; Time Zone: UTC+8)

DEI Event

Social Event V (July 29, 0:00-1:30; Time Zone: UTC+8)

Womin in IR – Session B

SIGIR'20 DC Student Talk Session

Time: July 26, 2020 (Time Zone: UTC+8)

Room: Xingqing Palace

DC Student Talk Session I (July 26, 14:30-16:30)

- Incorporating User Feedback in Conversational Question Answering over Heterogeneous Web Sources. *Magdalena Kaiser*
 - Mentors: *Xuanjing Huang and Grace Hui Yang*
- Towards Legal Case Retrieval. *Yunqiu Shao*
 - Mentors: *Paul Thomas and Allan Hanbury*
- Every Penny Counts: On Increasing the Intrinsic Value of Crowdsourcing. *Lei Han*
 - Mentors: *Carsten Eickhoff and Gabriella Kazai*
- Biomedical Information Retrieval Incorporating Knowledge Graph for Explainable Precision Medicine. *Zuoxi Yang*
 - Mentors: *Allan Hanbury and Guido Zuccon*
- Bridging East and West: An Integration of TCM and Western Medicine in Medical Text Mining. *Runjie Zhu*
 - Mentors: *Meng Wang and Tat-Seng Chua*

Break (July 26, 16:30-17:00)

DC Student Talk Session II (July 26, 17:00-19:00)

- Legal Data Analytics: Developing Assistive Tools for Legal Practitioners. *Paheli Bhattacharya*
 - Mentors: *Suzan Verberne and Jialie Shen*
- Towards Evaluating Veracity of Textual Statements on the Web. *Qiang Zhang*
 - Mentors: *Iadh Ounis and Guido Zuccon*
- Explaining Recommendations in Heterogeneous Networks. *Azin Ghazimatin*
 - Mentors: *Iadh Ounis, Min Zhang, and Denis Parra*
- Improving the Effectiveness and Efficiency of Graph Neural Recommender Systems. *Siwei Liu*
 - Mentors: *Meng Wang and Makoto P. Kato*
- End-to-End Contextualized Document Indexing and Retrieval with Neural Networks. *Sebastian Hofstätter*
 - Mentors: *Makoto P. Kato and Tat-Seng Chua*

Break (July 26, 19:00-19:30)

DC Student Talk Session III (July 26, 19:30-21:00)

- Multi-document answer generation for non-factoid questions. *Valeriia Bolotova-Baranova*
 - Mentors: *Xuanjing Huang and Cathal Gurrin*
- Language Agnostic Hate Speech Detection. *Ayme Arango*
 - Mentors: *Suzan Verberne and Cathal Gurrin*
- User Modeling Towards Stateful Learning to Rank. *Yanpeng Lin*
 - Mentors: *Carsten Eickhoff and Min Zhang*
- Spatio-temporal conditioned language models. *Juglar Diaz Zamora*
 - Mentors: *Jialie Shen and Jian-Yun Nie*

SIGIR'20 Tutorials and Workshops at a Glance

Sunday, July 26, 2020 (Time Zone: UTC+8)				
9:00-12:00	Tutorial 1 [Room: The Terracotta Army] Conversational Recommendation: Formulation, Methods, and Evaluation	Tutorial 2 [Room: Giant Wild Goose Pagoda] Mining the Web for Cross-lingual Parallel Data	Tutorial 3 [Room: Small Wild Goose Pagoda] Tutorial on Task-based Search and Assistance	Tutorial 8 [Room: Banpo Neolithic Settlements] Interactive Information Retrieval: Models, Algorithms, and Evaluation
	Tutorial 4 [Room: Bell Tower] Recent Advances in Conversational Information Retrieval	Tutorial 5 [Room: Drum Tower] Reciprocal Recommendation: matching users with the right users	Tutorial 6 [Room: Tang Paradise] Question Answering over Curated and Open Web Sources	Tutorial 7 [Room: The Stele Forest] Modeling User Behavior for Vertical Search: Images, Apps and Products
Thursday, July 30, 2020 (Time Zone: UTC+8)				
Whole Day	AIIS 2020 [Room: The Terracotta Army] The SIGIR 2020 Workshop on Applied Interactive Information Systems	FinIR 2020 [Room: Giant Wild Goose Pagoda] The First Workshop on Information Retrieval in Finance	BIRDS 2020 [Room: Small Wild Goose Pagoda] BIRDS - Bridging the Gap between Information Science, Information Retrieval and Data Science	eCom'20 [Room: Bell Tower] The 2020 SIGIR Workshop on eCommerce
	DeepNLP [Room: Drum Tower] The SIGIR 2020 Workshop on Deep Natural Language Processing for Search and Recommendation	LegalAI 2020 [Room: Tang Paradise] The 1 st International Workshop on Legal Intelligence	DRL4IR [Room: The Stele Forest] SIGIR'20 Workshop on Deep Reinforcement Learning for Information Retrieval	EARS 2020 [Room: Banpo Neolithic Settlements] The 3 rd International Workshop on Explainable Recommendation and Search

SIGIR'20 Tutorials

Tutorial 1: Conversational Recommendation: Formulation, Methods, and Evaluation

Sunday, July 26, 2020 (Time Zone: UTC+8)

Room: The Terracotta Army

Tutorial Organizers:

Wenqiang Lei, Xiangnan He, Maarten de Rijke, and Tat-Seng Chua

Time: 9:00 – 12:00

Abstract:

Recommender systems have demonstrated great success in information seeking. However, traditional recommender systems work in a static way, estimating user preferences on items from past interaction history. This prevents recommender systems from capturing dynamic and fine-grained preferences of users. Conversational recommender systems bring a revolution to existing recommender systems. They are able to communicate with users through natural languages during which they can explicitly ask whether a user likes an attribute or not. With the preferred attributes, a recommender system can conduct more accurate and personalized recommendations.

Therefore, while they are still a relatively new topic, conversational recommender systems attract great research attention. We identify four emerging directions: (1) exploration and exploitation trade-off in the cold-start recommendation setting; (2) attribute-centric conversational recommendation; (3) strategy-focused conversational recommendation; and (4) dialogue understanding and response generation. This tutorial covers these four directions, providing a review of existing approaches and progress on the topic.

By presenting the emerging and promising topic of conversational recommender systems, we aim to provide take-aways to practitioners to build their own systems. We also want to stimulate more ideas and discussions with audiences on core problems of this topic such as task formalization, dataset collection, algorithm development, and evaluation, with the ambition of facilitating the development of conversational recommender systems.

Tutorial 2: Mining the Web for Cross-lingual Parallel Data

Sunday, July 26, 2020 (Time Zone: UTC+8)

Room: Giant Wild Goose Pagoda

Tutorial Organizers:

Ahmed El-Kishky, Philipp Koehn, and Holger Schwenk

Time: 9:00-12:00

Abstract:

While the World Wide Web provides a large amount of text in many languages, cross-lingual parallel data is more difficult to obtain. Despite its scarcity, this parallel cross-lingual data plays a crucial role in a variety of tasks in natural language processing with applications in machine translation, cross-lingual information retrieval, and document classification, as well as learning cross-lingual representations. Here, we describe the end-to-end process of searching the web for parallel cross-lingual texts. We motivate obtaining parallel text as a retrieval problem whereby the goal is to retrieve cross-lingual parallel text from a large, multilingual web-crawled corpus. We introduce techniques for searching for cross-lingual parallel data based on language, content, and other metadata. We motivate and introduce multilingual sentence embeddings as a core tool and demonstrate techniques and models that leverage them for identifying parallel documents and sentences as well as techniques for retrieving and filtering this data. We describe several large-scale datasets curated using these techniques and show how training on sentences extracted from parallel or comparable documents mined from the Web can improve machine translation models and facilitate cross-lingual NLP.

Tutorial 3: Tutorial on Task-Based Search and Assistance

Sunday, July 26, 2020 (Time Zone: UTC+8)

Room: Small Wild Goose Pagoda

Tutorial Organizers:

Chirag Shah and Ryen White

Time: 9:00 – 12:00

Abstract:

While great strides are made in the field of search and recommendation, there are still challenges and opportunities to address information access issues that involve solving tasks and accomplishing goals for a wide variety of users. Specifically, we lack intelligent systems that can detect not only the request an individual is making (what), but also understand and utilize the intention (why) and strategies (how) while providing information. Many scholars in the fields of information retrieval, recommender systems, productivity (especially in task management and time management), and artificial intelligence have recognized the importance of extracting and understanding people's tasks and the intentions behind performing those tasks in order to serve them better. However, we are still struggling to support them in task completion, e.g., in search and assistance, it has been challenging to move beyond single-query or single-turn interactions. The proliferation of intelligent agents has opened up new modalities for interacting with information, but these agents will need to be able to work more intelligently in understanding the context and helping the users at task level. This tutorial will introduce the attendees to the issues of detecting, understanding, and using task and task-related information in an information episode (with or without active searching). Specifically, it will cover several recent theories, models, and methods that show how to represent tasks and use behavioral data to extract task information. It will then show how this knowledge or model could contribute to addressing emerging retrieval and recommendation problems.

Tutorial 4: Recent Advances in Conversational Information Retrieval

Sunday, July 26, 2020 (Time Zone: UTC+8)

Room: Bell Tower

Tutorial Organizers:

Jianfeng Gao, Chenyan Xiong, and Paul Bennett

Time: 14:00 – 17:00

Abstract:

Recent progress in deep learning has brought tremendous improvements in conversational AI, leading to a plethora of commercial conversational services that allow naturally spoken interactions, increasing the need for more human-centric interactions in IR. As a result, we have witnessed a resurgent interest in developing modern Conversational Information Retrieval (CIR) systems in research communities and industry.

This tutorial presents recent advances in CIR, focusing mainly on neural approaches and new applications developed in the past five years. Our goal is to provide a thorough and in-depth overview of the general definition of CIR, the components of CIR systems, new applications raised for its conversational aspects, and the (neural) techniques recently developed for it. This tutorial surveys recent advances in CIR, focusing on neural approaches that have been developed in the last few years. We present (1) a typical architecture of a CIR system, (2) new tasks and applications which arise from the needs of developing such a system, in comparison with traditional keyword-based IR systems, (3) new methods of conversational question answering, and (4) case studies of several CIR systems developed in research communities and industry.

The materials of this tutorial will cover both the basics of CIR and the advanced neural techniques recently developed; this presentation is accessible to a broad cross-section of SIGIR attendees with different backgrounds.

Tutorial 5: Reciprocal Recommendation: matching users with the right users

Sunday, July 26, 2020 (Time Zone: UTC+8)

Room: Drum Tower

Tutorial Organizers:

Iván Palomares

Time: 14:00 – 17:00

Abstract:

Reciprocal recommender systems, which recommend users to each other, have gained significant importance in various Internet services for connecting people in a personalized manner, such as: online dating, recruitment, socializing, learning, or skill-sharing. Unlike classical item-to-user recommenders, a fundamental requirement in reciprocal recommendation is that both parties, namely the requester user and the recommended user, must be satisfied with the “user match” recommendation in order to deem it as successful. Therefore, bidirectional preferences indicating mutual compatibility between pairs of users need to be estimated predicated on information fusion. This tutorial introduces the emerging and novel topic of reciprocal recommender systems, by analyzing their information retrieval, data-driven preference modelling and integration mechanisms for predicting suitable user matches. The tutorial will also discuss the current trends, practical use, impact and challenges of reciprocal recommenders in different application domains.

Tutorial 6: Question Answering over Curated and Open Web Sources

Sunday, July 26, 2020 (Time Zone: UTC+8)

Room: Tang Paradise

Tutorial Organizers:

Rishiraj Saha Roy and Avishek Anand

Time: 14:00 – 17:00

Abstract:

The last few years have seen an explosion of research on the topic of automated question answering (QA), spanning the communities of information retrieval, natural language processing, and artificial intelligence. This tutorial would cover the highlights of this really active period of growth for QA to give the audience a grasp over the families of algorithms that are currently being used. We partition research contributions by the underlying source from where answers are retrieved: curated knowledge graphs, unstructured text, or hybrid corpora. We choose this dimension of partitioning as it is the most discriminative when it comes to algorithm design. Other key dimensions are covered within each sub-topic: like the complexity of questions addressed, and degrees of explainability and interactivity introduced in the systems. We would conclude the tutorial with the most promising emerging trends in the expanse of QA, that would help new entrants into this field make the best decisions to take the community forward. Much has changed in the community since the last tutorial on QA in SIGIR 2016, and we believe that this timely overview will indeed benefit a large number of conference participants.

Tutorial 7: Modeling User Behavior for Vertical Search: Images, Apps and Products

Sunday, July 26, 2020 (Time Zone: UTC+8)

Room: The Stele Forest

Tutorial Organizers:

Xiaohui Xie, Jiaxin Mao, Yiqun Liu, and Maarten de Rijke

Time: 14:00 – 17:00

Abstract:

Search applications such as image search, app search and product search are crucial parts of web search, which we denote as vertical search services. This tutorial will introduce the research and applications of user behavior modeling for vertical search. The bulk of the tutorial is devoted to covering research into behavior patterns, user behavior models and applications of user behavior data to refine evaluation metrics and ranking models for web-based vertical search.

Tutorial 8: Interactive Information Retrieval: Models, Algorithms, and Evaluation

Sunday, July 26, 2020 (Time Zone: UTC+8)

Room: Banpo Neolithic Settlements

Tutorial Organizers:

Chengxiang Zhai

Time: 9:00 – 12:00

Abstract:

Since Information Retrieval (IR) is an interactive process in general, it is important to study Interactive Information Retrieval (IIR), where we would attempt to model and optimize an entire interactive retrieval process (rather than a single query) with consideration of many different ways a user can potentially interact with a search engine. This tutorial systematically reviews the progress of research in IIR with an emphasis on the most recent progress in the development of models, algorithms, and evaluation strategies for IIR. It starts with a broad overview of research in IIR and then gives an introduction to formal models for IIR using a cooperative game framework and covering decision-theoretic models such as the Interface Card Model and Probability Ranking Principle for IIR. Next, it provides a review of some representative specific techniques and algorithms for IIR, such as various forms of feedback techniques and diversification of search results, followed by a discussion of how an IIR system should be evaluated and multiple strategies proposed recently for evaluating IIR using user simulation. The tutorial ends with a brief discussion of the major open challenges in IIR and some of the most promising future research directions.

Workshop Programs

The SIGIR 2020 Workshop on Applied Interactive Information Systems (AIIS 2020)

Thursday, July 30, 2020 (Time Zone: UTC+8)

Room: The Terracotta Army

Workshop Organizers:

- Hongshen Chen (*JD.com, China*)
- Zhaochun Ren (*Shandong University, China*)
- Pengjie Ren (*University of Amsterdam, Netherlands*)
- Dawei Yin (*Baidu Inc., China*)
- Xiaodong He (*JD.com, China*)

Program Schedule:

8:30-8:35 **Opening**

8:35-9:35 **Keynote: Grounded Text Generation for Robust Conversational AI**
Jianfeng Gao (*Microsoft Research*)

9:35-10:35 **Keynote: Recent Research on Conversational Recommender System**
Xiangnan He (*University of Science and Technology of China*)

10:35-11:40 **Paper Presentation**

Attribute-aware Diversification for Sequential Recommendations

Anton Steenvoorden, Emanuele Di Gloria, Wanyu Chen, Pengjie Ren, and Maarten de Rijke

From A Glance to “Gotcha”: Interactive Facial Image Retrieval with Progressive Relevance Feedback

Xinru Yang, Haozhi Qi, Mingyang Li, and Alexandar Hauptmann

Continuous click behavior in academic search environment

Zhu Liang, Chuan Jiang, Dongbo Wang, and Si Shen

Topic-diversified Neural Dialogue Generation

Hengyi Cai, Hongshen Chen, Xiaofang Zhao, Dawei Yin, Zhuoye Ding, Yongjun Bao, and Weipeng Yan

Continue or SHIFT: Learning Conversational Patterns for Dialogue Generation

Shaoxiong Feng, Xuancheng Ren, Kan Li, and Xu Sun

Constructing Transparent QA Chatbot based on the Official Website Documents

Wataru Sakata, Ribeka Tanaka, and Sadao Kurohashi

The First Workshop on Information Retrieval in Finance (FinIR 2020)

Thursday, July 30, 2020 (Time Zone: UTC+8)

Room: Giant Wild Goose Pagoda

Workshop Organizers:

- Fuli Feng (*National University of Singapore, Singapore*)
- Cheng Luo (*MegaTech.AI, China*)
- Xiangnan He (*University of Science and Technology of China, China*)
- Yiqun Liu (*Tsinghua University, China*)
- Tat-Seng Chua (*National University of Singapore, Singapore*)

Program Schedule:

8:30-8:35	Welcome
8:35-9:05	Invited Talk 1: Secure Collaborative Intelligence: Bridging Data Islands for AI and Big Data Computing Dr. Benyu Zhang
9:05-9:35	Invited Talk 2: Cross-market High-dimensional Nonstationary Coupling Learning Dr. Haiqin Yang
9:35-10:05	Invited Talk 3: Cross-market High-dimensional Nonstationary Coupling Learning Dr. Longbing Cao
10:05-10:35	Invited Talk 4: Search and Discovery for Finance Dr. Edgar Meij
10:35-10:55	Introduction to Grand Challenge Mr. Jiangeng Chang
10:55-11:10	Talk 1: Winner Solution 1 Team Rank #1
11:10-11:25	Talk 2: Winner Solution 2 Team Rank #2
11:25-11:40	Talk 3: Winner Solution 3 Team Rank #3
11:40-12:00	Discussion and Summarization

BIRDS - Bridging the Gap between Information Science, Information Retrieval and Data Science (BIRDS 2020)

Thursday, July 30, 2020 (Time Zone: UTC+8)

Room: Small Wild Goose Pagoda

Workshop Organizers:

- Ingo Frommholz (*University of Bedfordshire, U.K.*)
- Haiming Liu (*University of Bedfordshire, U.K.*)
- Massimo Melucci (*University of Padua, Italy*)

Program Schedule:

15:00-15:45	Keynote 1: Fairness and Transparency in Ranking Carlos Castillo
15:45-16:15	Invited Talk 1: Explaining Explanation Methods Riccardo Guidotti
16:15-16:30	Break
16:30-17:00	Long paper presentation
17:00-17:30	Long paper presentation
17:30-17:45	Break
17:45-18:00	Position paper presentation
18:00-18:30	Long paper presentation
21:00-21:45	Keynote 2: Challenges and Opportunities for IS, IR & DS in an Era of Information Ubiquity Nick Belkin
21:45-22:15	Invited Talk 2: TBD Xi Niu
22:15-22:30	Short paper presentation
22:35-22:45	Short paper presentation
23:00-23:30	Long paper presentation

The 2020 SIGIR Workshop on eCommerce (eCom'20)

Thursday, July 30, 2020 (Time Zone: UTC+8)

Room: Bell Tower

Workshop Organizers:

- Dietmar Jannach (*University of Klagenfurt, Austria*)
- Surya Kallumadi (*The Home Depot, U.S.A.*)
- Tracy Holloway King (*Adobe, U.S.A.*)
- Weihua Luo (*Alibaba, China*)
- Shervin Malmasi (*Amazon, U.S.A.*)

Program Schedule:

Session 1 – Asia (Thursday July 30)

- | | |
|-------------|---|
| 9:00-9:05 | Welcome and Introduction
Organizers |
| 9:05-9:50 | Keynote 1: TBD
Luo Si |
| 9:50-10:10 | Contributed Talk 1
Speaker: TBD |
| 10:10-10:30 | Contributed Talk 2
Speaker: TBD |
| 10:30-11:00 | Coffee Break |
| 11:00-11:45 | Keynote 2: TBD
Tat-Seng Chua |
| 11:45-12:15 | Invited Talk 1: TBD
Anxiang Zeng |
| 12:15-12:30 | Report on SIGIR eCom'20 Data Challenge
Speaker: TBD |
| 12:00-12:35 | Group Discussion and Closing
Organizers |
| 12:35-13:35 | Virtual Discussion Rooms and Posters |

Session 2 – Europe/North America (Thursday July 30 – Friday July 31)

- | | |
|-------------|---|
| 22:00-22:30 | Report on SIGIR eCom'20 Data Challenge
Speaker: TBD |
|-------------|---|

22:30-22:45	DC Paper 1 Speaker: TBD
22:45-23:00	DC Paper 2 Speaker: TBD
23:00-23:40	Invited Talk 2: TBD Rishabh Mehrota
23:40-24:00	Coffee Break
0:00-0:05	Welcome and Introduction Organizers
0:05-0:50	Keynote 3: TBD Ed Chi
0:50-1:40	Panel Discussion: TBD Vanessa Murdock, Maarten de Rijke, and Joe Konsta
1:40-2:00	Coffee Break
2:00-2:45	Keynote 4: TBD Nadia Fawaz
2:45-3:00	Contributed Talk 3 Speaker: TBD
3:00-3:20	Contributed Talk 4 Speaker: TBD
3:20-4:00	Coffee Break
4:00-4:30	Invited Talk 3: TBD Keld Lundgaard
4:30-5:00	Invited Talk 4: TBD Pranam Kolari
5:00-5:30	Group Discussion and Closing Organizers
5:30-6:30	Virtual Discussion Rooms and Posters

The SIGIR 2020 Workshop on Deep Natural Language Processing for Search and Recommendation (DeepNLP)

Thursday, July 30, 2020 (Time Zone: UTC+8)

Room: Drum Tower

Workshop Organizers:

- Bo Long (*LinkedIn, U.S.A.*)
- Jieping Ye (*Didi Chuxing, China*)
- Zang Li (*Didi Chuxing, China*)
- Huiji Gao (*LinkedIn, U.S.A.*)
- Sandeep Jha (*LinkedIn, U.S.A.*)

Program Schedule:

Session 1

8:30-8:45	Opening
8:45-9:30	Keynote 1: TBD Speaker: TBD
9:30-10:00	Invited Talk 1: TBD Speaker: TBD
10:00-10:15	Break
10:15-11:30	Paper presentation
	TBD
	TBD
	TBD
	TBD
	TBD
	TBD

Session 2

12:30-13:15	Keynote 2: TBD Speaker: TBD
13:15-14:05	Paper presentation
	TBD
	TBD

TBD

TBD

14:05-14:20 **Break**14:20-15:35 **Paper presentation***TBD*

TBD

TBD

TBD

TBD

TBD

15:35-15:45 **Closing**

The 1st International Workshop on Legal Intelligence (LegalAI 2020)

Thursday, July 30, 2020 (Time Zone: UTC+8)

Room: Tang Paradise

Workshop Organizers:

- Changlong Sun (*Alibaba Group, China*)
- Yating Zhang (*Alibaba Group, China*)
- Xiaozhong Liu (*Indiana University Bloomington, U.S.A.*)
- Fei Wu (*Zhejiang University, China*)

Program Schedule:

- 8:45-9:30 **Keynote 1: Legal Intelligence Research in Industry**
Yating Zhang and Changlong Sun
- 9:45-10:15 **Keynote 2: Bring in the Lawyers: On the Importance of Domain Knowledge for Computational Law**
Douglas Orad
- 10:15-11:00 **Papar presentation 1**
- Automatic Text Revision with Application to Legal Documents***
Yiquan Wu and Kun Kuang
- AI-lead Court Debate Case Investigation***
Changzhen Ji, Conghui Zhu, and Tiejun Zhao
- Judgment Prediction Based on Case Life Cycle***
Luyao Ma and Wei Ye
- 11:10-12:00 **Paper presentation 2**
- Legal Artificial Intelligence - Have You Lost a Piece from Jigsaw Puzzle?***
Xiaozhong Liu
- Legal Summarization for Multi-role Debate Dialogue via Controversy Focus Mining and Multi-task Learning***
Xinyu Duan
- Masking Orchestration: Multi-task Pretraining for Multi-role Dialogue Representation Learning***
Tianyi Wang
- Legal Intelligence for E-commerce: Multi-task Learning by Leveraging Multiview Dispute Representation***
Xin Zhou

SIGIR'20 Workshop on Deep Reinforcement Learning for Information Retrieval (DRL4IR)

Thursday, July 30, 2020 (Time Zone: UTC+8)

Room: The Stele Forest

Workshop Organizers:

- Weinan Zhang (*Shanghai Jiao Tong University, China*)
- Xiangyu Zhao (*Michigan State University, U.S.A.*)
- Li Zhao (*Microsoft Research Asia, U.S.A.*)
- Dawei Yin (*Baidu Inc., China*)
- Grace Hui Yang (*Georgetown University, U.S.A.*)
- Alex Beutel (*Google Brain, U.S.A.*)

Program Schedule:

- 8:30-8:40 **Opening & Welcome**
Dr. Weinan Zhang (*Associate Professor, Shanghai Jiao Tong University*)
- 8:40-9:10 **Keynote 1: Practices on applying DRL to IR tasks**
Dr. Alex Beutel (*Staff Research Scientist, Google Brain*)
- 9:10-9:40 **Keynote 2: Some experience on learning in decision-related IR tasks**
Dr. Yang Yu (*Professor, Nanjing University*)
- 9:40-9:55 **Paper Talk 1: Deep Reinforced Query Reformulation for Information Retrieval**
Xiao Wang, Craig Macdonald, and Iadh Ounis (*Glasgow University*)
- 9:55-10:10 **Paper Talk 2: Reinforcement Learning Meets Information Seeking: Dynamic Search Challenge**
Zhiwen Tang and Grace Hui Yang (*Georgetown University*)
- 10:10-10:30 **Break**
- 10:30-11:00 **Keynote 3: Practical Study of Dispatching and Driver Repositioning in Didi Chuxing**
Dr. Zhe Xu (*Senior Staff Algorithm Engineer, Didi Chuxing*)
- 11:00-11:15 **Paper Talk 3: User Behavior Retrieval for Click-Through Rate Prediction**
Jiarui Qin (*Shanghai Jiao Tong University*)
- 11:15-11:30 **Paper Talk 4: Corpus Compression for Deep Reinforcement Learning in Natural Language Environments**
Zhiwen Tang and Grace Hui Yang (*Georgetown University*)

The 3rd International Workshop on Explainable Recommendation and Search (EARS 2020)

Thursday, July 30, 2020 (Time Zone: UTC+8)

Room: Banpo Neolithic Settlements

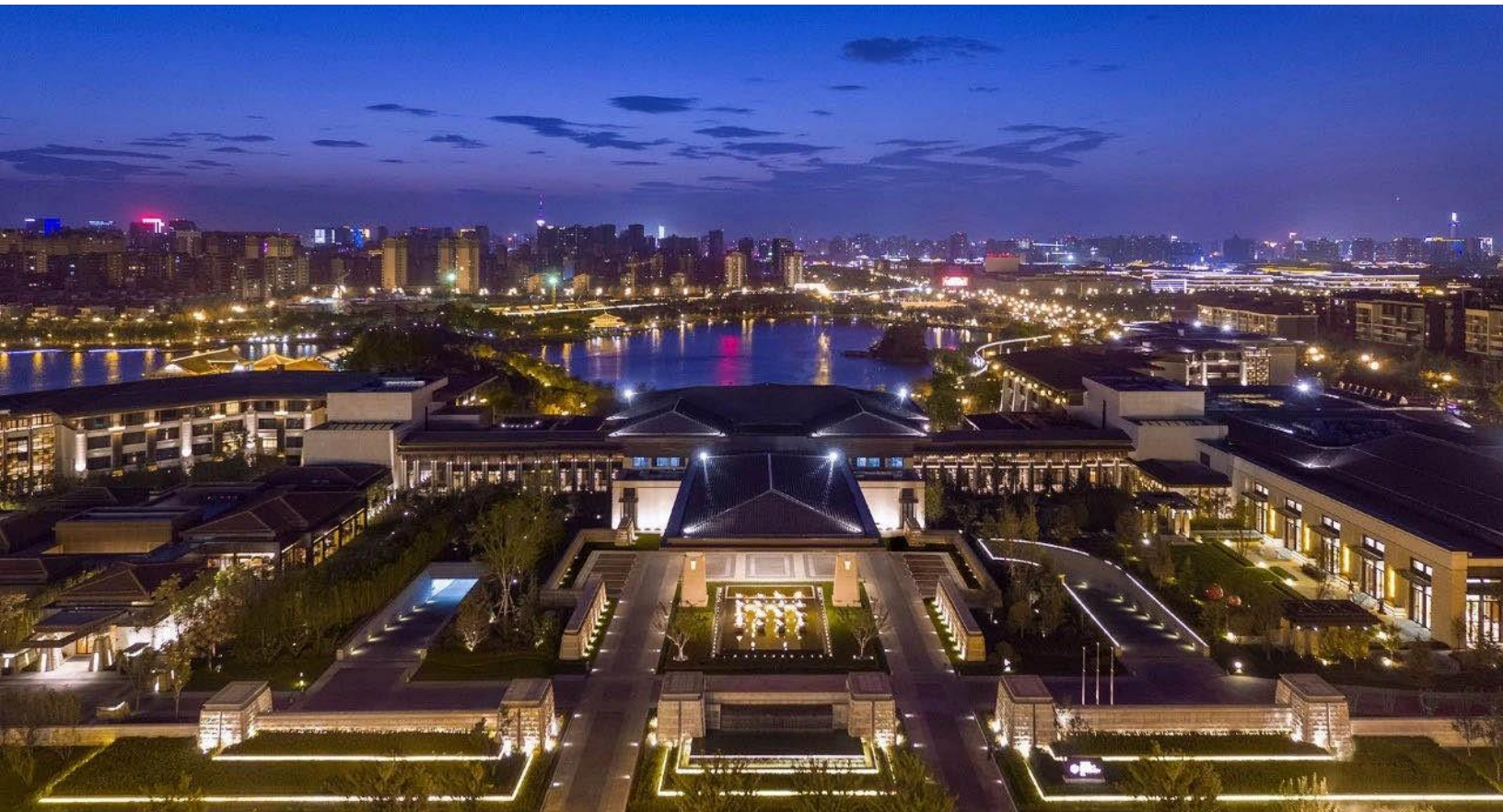
Workshop Organizers:

- Yongfeng Zhang (*Rutgers University, U.S.A.*)
- Xu Chen (*University College London, U.K.*)
- Yi Zhang (*UC Santa Cruz, U.S.A.*)
- Min Zhang (*Tsinghua University, China*)
- Chirag Shah (*University of Washington, U.S.A.*)

Program Schedule:

- | | |
|-------------|--|
| 9:30-9:45 | Opening |
| 9:45-10:45 | Invited Talk
Explainable Recommendation: Perspective from Knowledge Graph Reasoning and Natural Language Generation
Dr. Xiting Wang, <i>Microsoft Research Asia</i> |
| 10:45-11:15 | Paper Talk
Mining Implicit Entity Preference from User-Item Interaction Data for Knowledge Graph Completion via Adversarial Learning
Gaole He, Junyi Li, Wayne Xin Zhao Peiju Liu, and Ji-Rong Wen |
| 11:15-14:30 | Rest |
| 14:30-15:30 | Invited Talk
Interpretability of Search Models
Prof. Avishek Anand, <i>Leibniz University of Hannover</i> |
| 15:30-16:30 | Invited Talk
User-Centric Design and Evaluation of Explanation for Recommendation
Prof. Li Chen, <i>Hong Kong Baptist University</i> |
| 16:30-16:45 | Break |
| 16:45-17:15 | Paper Talk
Helping results assessment by adding explainable elements to the deep relevance matching model
Ioannis Chios and Suzan Verberne |
| 17:15-17:45 | Paper Talk
Explaining black-box neural ranking models using sentence impact analysis
Lars Holdijk, Maurice Verbrugge, Emma Gerritse, and Arjen de Vries |
| 17:45-21:00 | Rest |

- 21:00-21:30 **Paper Talk**
Generating medical screening questionnaires through analysis of social media data
Ortal Ashkenazi, Elad Yom-Tov, and Liron Vardi David
- 21:30-22:00 **Paper Talk**
Toward Explainability in Professional Search
Tony Russell-Rose and Andrew MacFarlane



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