

# CCGT Workshop Proposal

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<b>Organizers</b>	Ji Xu (China), <a href="mailto:alanxuch@hotmail.com">alanxuch@hotmail.com</a> ; Di Wu (China), <a href="mailto:wudi@cigit.ac.cn">wudi@cigit.ac.cn</a> ; Weihui Deng (China), <a href="mailto:dengweihui@baidu.com">dengweihui@baidu.com</a> .
<b>Title</b>	The 2020 International Workshop on Data-driven Granular Cognitive Computing
<b>Acronym</b>	DGCC 2020
<b>Duration</b>	Half-day
<b>CFP &amp; Topics</b>	See Appendix I
<b>Dissemination Plan</b>	The organizers are senior scientists in granular computing, rough set, three-way decision and related research fields. The CFP of this workshop will be disseminated to scholars who are experts or senior researchers to attract quality submissions from their research groups.
<b>Short Bio of Organizers</b>	See Appendix II
<b>Contacts</b>	Ji Xu, Institute of Machine Intelligence, Guizhou University of Engineering Science, Guizhou, China, <a href="mailto:alanxuch@hotmail.com">alanxuch@hotmail.com</a> .  Di Wu, Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences, Chongqing, China, <a href="mailto:wudi@cigit.ac.cn">wudi@cigit.ac.cn</a> .  Weihui Deng, Baidu Online Network Technology (Beijing) Co., Ltd; <a href="mailto:dengweihui@baidu.com">dengweihui@baidu.com</a> .

## Call for Papers

### CCGT 2020

#### 2020 International Workshop on Data-driven Granular Cognitive Computing

at the CCGT 2020: The 2020 International Conference on Cognitive analytics, Granular computing, and Three-way decisions

<http://rskt.cs.uregina.ca/ccgt/>

October 23-25, Shanghai, China.

The 2020 International Workshop on Data-driven Granular Cognitive Computing (DGCC2020) provides a unique platform for researchers focusing on granular cognitive computing, knowledge discovering and data mining from heterogeneous and autonomous information sources, to share and disseminate recent research progress. This is the 2<sup>nd</sup> edition of the series of DGCC workshops. The 1<sup>st</sup> was the DGCC2018 at the IEEE ICDM2018, November 17-20, 2018, Singapore.

Cognitive computing is the 3<sup>rd</sup> and most transformational phase in computing's evolution, after the two distinct eras of computing—the tabulating era and the programming era. Statistical machine learning algorithms learn patterns with a “bottom up” style which needs huge amount of data, while human-beings cognize the world with a “global precedence” mechanism in a much more effective and efficient way. Data-driven granular cognitive computing (DGCC) is a cognitive computing model inspired by human's granularity thinking and cognition law of “global precedence” and has attracted extensive research recently. Comparing with the statistical machine learning and data mining, there is still a long way to go before we find out how human cognition works and achieve efficient cognitive computing. Thus, we invite all researchers and practitioners to participate in this event and share, contribute, and discuss the emerging challenges in granular cognitive computing and knowledge engineering with complex and evolving relationships from heterogeneous, autonomous information sources.

**Topics:** The major topics of interest to this workshop include but are not limited to:

- Adaptive, Complex and Evolving Systems
- Associative Memory with Forgetting
- Control of Attention
- Data Intelligence
- Discovery of Complex Vague Concepts for Initiating Actions and Plans
- Fuzzy Sets
- Heterogeneous, Autonomous Information Processing
- Human Cognition Based Computing
- Intelligent Computation Forwarding
- Intelligent Computing with Uncertainty
- Interpretable Deep Learning
- Interactive Granular Computing
- Knowledge Representation
- Knowledge Space Evolution
- Learning of Interaction Rules
- Machine Learning for Cognitive Computing
- Multi Granularity Clustering

- Multiple Granularity Joint Computing
- Multiple Granularity Machine Learning
- Multiple Granularity Space
- Perception-based Computing
- Probabilistic/Stochastic Learning
- Risk Management in Interactive Granular Computing
- Rough Sets
- Theoretical Foundations of Cognitive Computing
- Variable Granularity Computing

#### **Important Dates:**

\* Paper submission due: May 5, 2020

\* Notification of acceptance/rejection: June 5, 2020

\* Camera-Ready Papers due: June 30, 2020

\* Conference: October 23-25, 2020

All deadlines are 11:59PM, UTC-12; Thus, submissions are allowed as long as the deadline date is not past anywhere in the world.

#### **Submission Guidelines**

Both research and application papers are welcomed. All the submitted papers will be thoroughly reviewed on the basis of indicators such as technical quality, relevance, presentation, significance, and clarity. Each paper should not be more than 10-12 pages long in the Springer-Verlag LNCS style, including figures, tables and references. The LNCS template may be downloaded from the link <http://www.springer.com/lncs>. The submitted papers must be in PDF format and needs to be submitted electronically using EasyChair link <https://easychair.org/conferences/?conf=ccgt20>. We strongly recommend the use of LaTeX style files for this year's conference.

#### **Organization**

##### **Steering Chairs:**

- ✧ Davide Ciucci (Italy), [ciucci@disco.unimib.it](mailto:ciucci@disco.unimib.it)
- ✧ Andrzej Skowron (Poland), [skowron@mimuw.edu.pl](mailto:skowron@mimuw.edu.pl)
- ✧ Guoyin Wang (China), [wanggy@ieee.org](mailto:wanggy@ieee.org)
- ✧ Yiyu Yao (Canada), [yyao@cs.uregina.ca](mailto:yyao@cs.uregina.ca)

##### **Organizing Chair:**

- ✧ Ji Xu (China), [alanxuch@hotmail.com](mailto:alanxuch@hotmail.com);
- ✧ Di Wu (China), [wudi@cigit.ac.cn](mailto:wudi@cigit.ac.cn);
- ✧ Weihui Deng (China), [dengweihui@baidu.com](mailto:dengweihui@baidu.com).

## Appendix II: Short Bio of Organizers



**Ji Xu**, member of CCF and CAAI, received the B.S. from Beijing Jiaotong University in 2004, the M.S. from Tianjin Normal University, China, in 2008, and the Ph.D. degree in computer science from Southwest Jiaotong University, Chengdu, China, in 2017.

He has participated in a number of National Key Research and Development Programs of China, and now is hosting a research program of National Natural Science Foundation of China. One of the papers he authored was elected as “Front Runner 5000—Top Articles in Outstanding S&T Journals of China” in 2018.

He is now the founder and director of Institute of Machine Intelligence, Guizhou University of Engineering Science (IMI, GUES), Guizhou, China. His research interests include granular computing, data mining, and machine learning. He has published a number of papers in refereed international conferences and journals such as IEEE Transactions on Cybernetics and Information Sciences, etc.



**Di Wu** received the B.S. degree from the Nanjing University of Science and Technology, Jiangsu, China, in 2009, the M.S. degree from the Chongqing University, Chongqing, China, in 2012, and the Ph.D. degree from the Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences, Chongqing, China, in 2019. He is currently an Associate Professor of computer science with the Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences. He was a visiting scholar funded by the China Scholarship Council from April 2018 to April 2019 at the University of Louisiana at Lafayette, USA. He is a member of the IEEE. He is a PI of

several research projects, including the National Natural Science Foundation of China. His research interests include data mining and machine learning. He has published over 30 papers, including IEEE.Trans.Serv.Comput, IEEE.Trans.Syst.Man.Cy-S, IEEE.Trans.Ind.Inform, PAKDD2019, BigData2019, IJCAI2019, etc.



**Weihui Deng**, received the Ph.D degree in computer application from Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences, in 2017. Now he is a senior software engineer in Baidu Online Network Technology (Beijing) Co., Ltd. He has over 13 reviewed research publications and 5 China invention patents. He was named Outstanding Doctoral Dissertation Award in Chongqing Province, in 2018. His research interests include big data, knowledge discovery and data mining, machine learning, granular computing, time series data mining, trajectory data mining, cognitive computing, etc.