

# Preface to the proceedings of the CIKM AnalytiCup 2020

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The AnalytiCup is an annual open competition at the International Conference on Information and Knowledge Management (CIKM). The AnalytiCup offers compelling data challenges aimed at members of the industry and academia. The 2020 edition of the CIKM AnalytiCup hosted two data challenges. The final solutions of each challenge were presented at the CIKM AnalytiCup 2020 event, which was held in conjunction with the 29th ACM International Conference on Information and Knowledge Management (CIKM'2020).

In the following, we provide a short description of each challenge including the number of teams:

- **COVID-19 Retweet Prediction Challenge (32 teams with more than 200 participants)**

The goal of this challenge is to predict the popularity of COVID-19-related tweets in terms of the number of their retweets. Retweeting—re-posting original content without any change—is a popular function in Twitter and can be seen as amplifying the spread of original messages. This makes retweet prediction a crucial task when studying online information diffusion processes during a time of crisis such as the current COVID-19 pandemic.

The winners of the COVID-19 Retweet Prediction Challenge received non-cash prizes worth 2.500€ provided by L3S Research Center, University of Hannover, Germany. The challenge has been also supported by GESIS – Leibniz Institute for the Social Sciences, Germany, Chongqing University of Technology, China, Heinrich-Heine-University Düsseldorf, Germany.

- **Alibaba-Tsinghua Adversarial Challenge on Object Detection (1701 teams with more than 2000 participants)**

In recent years, with vigorous technological development, AI has gradually become the driver of many practical applications. Meanwhile, AI security also has become more critical. As the AI defender in the future, Alibaba Security unions Tsinghua University to convene "Challengers" for the safety of AI models based on different data modalities, such as text, image, video, and audio. This challenge contains target and non-target attacks

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under different scenarios, and the goal is to attack the model by generating adversarial examples to lead the model misjudging.

The winners of the Alibaba-Tsinghua Adversarial Challenge on Object Detection received 68000¥ provided by Alibaba Security.

Each challenge brings together the competition winners presenting their solutions, academic and industry speakers contributing to the main debates. We thank all authors and participants for their efforts in making this edition of the CIKM AnalytiCup an active and intellectually challenging forum of research discussions. We also thank L3S Research Center and Alibaba Security for financially supporting CIKM AnalytiCup 2020. Finally we thank GESIS – Leibniz Institute for the Social Sciences, Germany, Chongqing University of Technology, China, Heinrich-Heine-University Düsseldorf, Germany, and Tsinghua University, China for the material support of the CIKM AnalytiCup 2020.

In the following, we list the papers describing the winning solutions in each data challenge and the program committee.

### **COVID-19 Retweet Prediction Challenge**

- T Vinayaka Raj *CIKM AnalytiCup 2020: COVID-19 Retweet Prediction with Personalized Attention*
- Tam T. Nguyen, Karamjit Singh, Sangam Verma, Hardik Wadhwa, Siddharth Vimal, Lalasa Dheekollu, Sheng Jie Lui, Divyansh Gupta, Dong Yang Yin, Zha Wei *Word and Graph Embeddings for COVID-19 Retweet Prediction*
- Daichi Takehara *Feature Extraction for Deep Neural Networks: A Case Study on the COVID-19 Retweet Prediction Challenge*
- Guangyuan Piao, Weipeng Huang *Regression-enhanced Random Forests with Personalized Patching for COVID-19 Retweet Prediction*

### **Alibaba-Tsinghua Adversarial Challenge on Object Detection**

- Honglin Li, Yunqing Zhao *Fool Object Detectors with  $L_0$ -Norm Patch Attack*
- Ye Liu, Xiaofei Zhu, Xianying Huang *Efficient Warm Restart Adversarial Attack for Object Detection*
- Shudeng Wu, Tao Dai, Shu-Tao Xia *DPAttack: Diffused Patch Attacks against Universal ObjectDetection*
- Yusheng Zhao, Huanqian Yan, Xingxing Wei *Object Hider: Adversarial Patch Attack Against Object Detectors*
- Jiayu Bao *Sparse Adversarial Attack to Object Detection*
- Yanghao Zhang, Fu Wang, Wenjie Ruan *Fooling Object Detectors:Adversarial Attacks by Half-Neighbor Masks*

### **Program Committee**

- Huayu Chen, Tsinghua University, China

- Dimitar Dimitrov, GESIS - Leibniz Institute for the Social Sciences, Germany
- Yinpeng Dong, Tsinghua University, China
- Yao Feng, Tsinghua University, China
- Zhongkai Hao, University of Science and Technology of China, China
- Chang Liu, Shanghai Jiao Tong University, China
- Bowen Sun, Shanghai Jiao Tong University, China
- Zhengyi Wang, Tsinghua University, China
- Chengyang Ying, Tsinghua University, China
- Xiaofei Zhu, Chongqing University of Technology, China
- Xinning Zhou, Tsinghua University, China

CIKM AnalytiCup 2020 chairs

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