Aim and Scope

With the rapid development of emerging deep learning technologies and applications, large amounts of data have been generated through different types of objects, such as texts, images, graphs, videos, etc. This scenario has led to a renewed attention in anomaly detection, which is indispensable in many fields like cybersecurity, fintech, healthcare, public security and AI safety. Recently, various studies propose to leverage the power of deep learning for anomaly detection, which has shown some promising results. However, many challenging problems still remain unsolved due to the complex nature of data and models. This special section on Deep Learning on Anomaly Detection will solicit recent advances in anomaly detection that exploit the data structures, semantics, dynamics and heterogeneity to provide more reliable and efficient anomaly detection systems.

This session aims to promote the development of novel deep learning-based methods that aim at anomaly detection, including the models that are more effective in a specific field or solve classic, contemporary, or emerging challenges in the field. Thus, this session solicits original, high-quality papers focused on effective anomaly detection methods or the approaches to the challenges in anomaly detection. Since recently various studies have proposed strategies that address such challenges, the goal of this session is to seek constructive ideas and deep learning-based strategies for handling challenges in various topics on anomaly detection. This session provides a platform to exhibit works on such topics:

Topics

- anomaly detection in various data types, e.g. graphs, video or time series;
- anomaly detection models based on neural networks. E.g. CNN based methods, RNN based methods or LSTM based methods;
- anomaly detection foundations or theories related to deep learning. E.g. stochastic sampling, statistics-based models or optimization on models;
- applications of deep-learning guided models. E.g. disease detection in healthcare, fraud detection in finance and crime detection based on social activities;
- researches in related areas. E.g. anomaly classification and adversarial samples detection;
- survey for anomaly detection.

Important Dates

- Paper submission: January 31, 2022 (11:59 PM AoE) STRICT DEADLINE
- Notification of acceptance: April 26, 2022
- Final paper submission: May 23, 2022

[Submission portal](#)

Organizers

Assist Prof Hao Peng, Beihang University, Beijing, China
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Prof Philip S. Yu, University of Illinois at Chicago, USA

Support or Contact

You can find detailed instructions on how to submit your paper [here](#).
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