

# CALL FOR PAPERS

**IEEE/ACM Int'l Conf. on Big Data Computing, Applications, and Technologies  
BDCAT**

Recent years witnessed significant interest in the use of Machine Learning and AI-based techniques to support large data analysis, with research and implementation of systems specifically focused on supporting different phases of the data processing lifecycle. These have ranged from in-memory systems and distributed environments (e.g., MapReduce/Hadoop, Spark) to specialist environments for stream processing of data and events (e.g., Flink, Kinesis) and Serverless (e.g., OpenWhisk, AWS Lambda). On the other hand, we also realise the importance of computational systems required to process small data volumes, but which involve interdependencies and relationships that are hard to capture and derive.

The **IEEE/ACM International Conference on Big Data Computing, Applications, and Technologies (BDCAT)** is a premier annual conference series aiming to provide a platform for researchers from both academia and industry to present new discoveries in the broad area of big data computing and applications. Previous events were held in London, UK (BDCAT 2014), Limassol, Cyprus (BDCAT 2015), Shanghai, China (BDCAT 2016), Austin, USA (BDCAT 2017), Zurich, Switzerland (BDCAT 2018), Auckland, New Zealand (BDCAT 2019), Leicester, UK (BDCAT 2020), Leicester, UK (BDCAT 2021), Vancouver, USA (BDCAT 2022), and Taormina, Italy (BDCAT 2023). The BDCAT 2024 will be held in conjunction with the 17<sup>th</sup> IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2024) in Sharjah, UAE.

**Authors are invited to submit original, unpublished research manuscripts in all areas of Big Data computing, applications and technologies, as well as on related scaling data analysis.**

## **Topics of interest include (but not limited to):**

### **1. Machine Learning and Data Mining**

- Data Science Models and Approaches
- Data Acquisition, Integration, Cleaning and Best Practices
- Supervised, Unsupervised and Reinforcement Learning
- Neural Networks, Convolution Neural Networks and Recurrent Neural Networks
- Transformer and Natural Language Processing
- Swarm Intelligence and Evolutionary Strategy
- Efficient Model Training, Inference and Serving
- Distributed, Federated and Parallel Learning Algorithms
- Testing, Debugging and Monitoring
- Fairness, Interpretability and Explainability
- Specialized Hardware for Scaling

### **2. Scaling Data Visualizations**

- Visual Analytics Algorithms and Foundations
- Graph and Context Models for Visualization
- Analytics Reasoning and Sense-making
- Visual Representation and Interaction
- Data Transformation and Presentation

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## 3. Data Infrastructures and Platforms

- Scalable Computing Models, Theories and Algorithms
- Mapreduce: Hadoop and Spark
- Privacy and Security over the Data Life Cycle
- Data Search and Information Retrieval Techniques
- Extract/Transform/Load (ETL) or ETL Pipelines
- In-Memory Systems and Platforms
- Performance Evaluation Reports
- Storage Systems (including file systems, NoSQL, and RDBMS)
- Resource Management Approaches
- Data Analytics on Edge Devices
- Fault Tolerance and Reliability
- Energy-Efficiency and Sustainability
- Data Archival and Preservation

## 4. Scaling Data Applications

- Data Applications for Internet of Things, Mobile Applications and Cyber-Physical Systems
- Data Applications for Healthcare and Life Science (e.g., Genome Processing)
- Data Applications for Physical Science and Engineering
- Data Applications for Business and Enterprise Applications
- Data Applications for Social Networks
- Data Applications for Scientific Case Studies
- Data Applications over the Cloud-Edge Continuum
- Data Streaming and Batch Applications
- Data Trends and Challenges

**Paper Submission:** Please follow the instructions on the conference website:  
**[www.bdcatt-conference.org](http://www.bdcatt-conference.org)**

## Important Dates

**Time zone:** Anywhere in the world!

**Paper Submissions Due:** 10 August 2024

**Acceptance Notification:** 7 October 2024

**Camera Ready Papers Due:** 20 October 2024

**Conference inquiries should be sent  
by e-mail to the conference co-chairs**

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## Awards and Special Issues

A selection committee chaired by the BDCAT 2024 conference co-chairs will select and acknowledge the best paper to receive an award during the conference. Authors of highly rated papers from BDCAT 2024 will be invited to submit an extended version to special issues of prestigious journals.