



**The 4th IEEE International Conference on Data Science and Systems
(DSS-2018)**

28-30 June 2018, Exeter, UK

***** IEEE DSS-2018 CFP *****

**The 4th IEEE International Conference on Data Science and Systems
(DSS-2018)**

<http://cse.stfx.ca/~dss2018/>

Exeter, England, UK, 28-30 June 2018

Sponsored by

IEEE, IEEE Computer Society, and IEEE Technical Committee of Scalable Computing (TCSC)

INTRODUCTION

As an interdisciplinary area, Data Science draws scientific inquiry from a broad range of subject areas such as statistics, mathematics, computer science, machine learning, optimization, signal processing, information retrieval, databases, cloud computing, computer vision, natural language processing, etc. Data Science is on the essence of deriving valuable insights from data. It is emerging to meet the challenges of processing very large datasets, i.e. Big Data, with the explosion of new data continuously generated from various channels, such as smart devices, web, mobile and social media.

Data Systems are posing many challenges in exploiting parallelism of current and upcoming computer architectures. Data volumes of applications in the fields of sciences and engineering, finance, media, online information resources, etc. are expected to double every two years over the next decade and further. The importance of data intensive systems has been raising and will continue to be the foremost fields of research. This raise brings up many research issues, in forms of capturing and accessing data effectively and fast, processing it while still achieving high performance and high throughput, and storing it efficiently for future use.

DSS (Data Science and Systems) was created to provide a prime international forum for researchers, industry practitioners and domain experts to exchange the latest advances in Data Science and Data Systems as well as their synergy. 2018 is the 4th event following the success in 2015 (DSDIS-2015), 2016 (DSS-2016), and 2017 (DSS-2017).

DSS-2018 will be hosted in Exeter, the capital city of Devon and provides the county with a central base for education, medicine, religion, commerce and culture. The city is also home to the magnificent Exeter Cathedral, which dates back to Norman times. Exeter is also ideally placed to base a trip to branch out visiting places such as the famous Dartmoor National Park and the unspoilt beaches of the North and South Devon coastlines.

SCOPE AND TOPICS

Topics of interest include, but are not limited to:

I. Data Science

- Foundational theories and models of data science
- Foundational algorithms and methods for big data
- Data classification and taxonomy
- Data metrics and metrology
- Machine learning and deep learning
- Data analytics
- Data provenance
- Fault tolerance, reliability, and availability
- Security, privacy and trust in Data

II. Data Processing Technology

- Data sensing, fusion and mining
- Data representation, dimensionality reduction, processing and proactive service layers
- Data capturing, management, and scheduling techniques
- Stream data processing and integration
- Knowledge discovery from multiple information sources
- Statistical, mathematical and probabilistic modeling and theories
- Information visualization and visual data analytics
- Information retrieval and personalized recommendation
- Parallel and distributed data storage and processing infrastructure
- MapReduce, Hadoop, Spark, scalable computing and storage platforms
- Security, privacy and data integrity in data sharing, publishing and analysis
- Replication, archiving, preservation strategies
- Stream data computing
- Meta-data management
- Remote data access

III. Data Systems

- Storage and file systems
- High performance data access toolkits
- Programming models, abstractions for data intensive computing
- Compiler and runtime support
- Future research challenges of data intensive systems
- Real-time data intensive systems
- Network support for data intensive systems
- Challenges and solutions in the era of multi/many-core platforms
- Green (power efficient) data intensive systems
- Data intensive computing on accelerators and GPUs
- Productivity tools, performance measuring and benchmark for data intensive systems
- Big Data, cloud computing and data intensive systems

IV. Data Applications

- HPC system architecture, programming models and run-time systems for data intensive applications
- Innovative applications in business, finance, industry and government cases
- Data-intensive applications and their challenges
- Innovative data intensive applications such as health, energy, cybersecurity, transport, food, soil and water, resources, advanced manufacturing, environmental Change, and etc.

IMPORTANT DATES

- Workshop Proposal Due: 10 January 2018
- Paper Submission Deadline: ~~10 February 2018~~ 23 March 2018 (firm deadline)
- Authors Notification: 22 April 2018
- Camera-Ready Paper Due: 25 May 2018
- Early Registration Due: 25 May 2018
- Conference Date: 28-30 June 2018

PAPER SUBMISSION GUIDELINE

All papers need to be submitted electronically through the conference submission website (<http://cse.stfx.ca/~dss2018/sub/>) with PDF format. The materials presented in the papers should not be published or under submission elsewhere. Each paper is limited to 8 pages (or 10 pages with over length charge) including figures and references using IEEE Computer Society Proceedings Manuscripts style (two columns, single-spaced, 10 fonts). You can confirm the IEEE Computer Society Proceedings Author Guidelines at the following web page:

<http://www.computer.org/web/cs-cps/>

Manuscript Templates for Conference Proceedings can be found at:

https://www.ieee.org/conferences_events/conferences/publishing/templates.html

Once accepted, the paper will be included into the IEEE conference proceedings published by IEEE Computer Society Press (indexed by EI). At least one of the authors of any accepted paper is requested to register the paper at the conference.