



# MONTHLY TALKS CYBER-PHYSICAL SYSTEMS Society of Iran

2022  
SUMMER



Amordad. 30 | 16:00 P.M. - 18:00 P.M.  
CPSSI Virtual Hall  
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**SPEAKER:** M. Reza Hoseinyfarahabady, PhD (University of Sydney )

## Data Fusion: Opportunities and Challenges in Streaming Data

**ABSTRACT:** The trend toward big data is leading to change in the computing paradigm, and to the notion of moving computation to data. Data movement impacts three fundamental system attributes as the overall performance, power efficiency, and reliability. While more enterprises are facing with a huge amount of streaming data that needs to be quickly processed in a real time fashion to extract deeper insights from the raw data that continuously enter to their systems. In almost all existing real-time streaming data processing engines, a huge amount of data must be transformed and fused continuously in the main memory units before it is stored on the hard drive. One of the major issues posed by such platforms is fulfilling the scalability of the system while keeping the promised QoS level under fluctuations of request rates. In this short talk, I will explain the ideas behind data transformer and data fusion over streaming data sets. I will also discuss some scalability challenges (and potential research ideas!) in presence of high arrival rate of streaming data within short periods.

**BIOGRAPHY OF THE SPEAKER:** Dr. M. Reza HoseinyFarahabady received the BSc degree in computer engineering, the MSc degree in information technology and network engineering, both from the Sharif University of Technology, Tehran, Iran, and the PhD degree from the School of Information Technologies, the University of Sydney, Sydney, Australia, in 2005, 2007, and 2015, respectively. Since 2015, he has been working in the University of Sydney, Centre for Distributed and High-Performance Computing, School of Computer Science as a research associate. His current research interests include parallel and distributed computing systems, and control systems engineering.



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Tel: (+98) 21 - 28421938  
Email: [info@cpssi.ir](mailto:info@cpssi.ir)  
Website: [www.cpssi.ir](http://www.cpssi.ir)