

The 2nd IEEE Int. Conference on Smart Cloud (SmartCloud 2017)
November 3rd-5th, 2017, New York, USA

Tutorial Session

Data Privacy Preservation in Cloud through Machine Learning

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Time: 10AM-12AM, November 5th, 2017

The emerging field of Cloud Computing provides elastic on-demand services over the Internet or over a network. According to the International Data Corporation (IDC) users' data privacy is one of the key challenges in the cloud environment. Users' data privacy can be violated by the cloud vendor, the vendor's authorized users, other cloud users, unauthorized users, or external malicious entities. Encryption of data on client side is one of the solutions to preserve data privacy in the cloud; however, encryption methods are complex and expensive for mobile devices, such as smart phones to encrypt and decrypt each single file. Therefore, we should consider a variety of data security and data privacy solutions for each challenge. In this tutorial, we review different data privacy challenges as well as the state-of-the-art from both academia and industry to define different possible data security and data privacy solutions for each challenge. We provide a set of use cases to understand the challenges for different users. We also focus on different machine learning algorithms in order to preserve users' data privacy when different trained models enable users to monitor users' data privacy and data security.

The tutorial addresses diverse audience including: cloud providers, cloud DevOps, engineers and cloud end-users by recommending a set of solutions from different perspectives to overcome each data privacy challenge. This tutorial composes of lecture, discussion session, short-demo sessions, and Q&A. We provide a digital handout with some online resource that allows audience to interactively participate in the tutorial. The background of this tutorial is available [here](#).



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About the Speaker:



Mehdi Bahrami is a Member of Research Staff at Fujitsu Laboratory of America in Sunnyvale, California. He received his Ph.D. in Electrical Engineering and Computer Science from the University of California, Merced, where his Ph.D. dissertation focuses on a dynamic cloud and data privacy preservation. He is an IEEE Senior member and he has more than 10 years of software industry experience in the field of computer science. He has published several [technical papers](#) in the areas of cloud computing and data privacy. He is an editor, reviewer for several international computer science journals, including Springer journals. He also served as a technical program committee member for several international IEEE computer science conferences. He is served as a [featured speaker](#) in several international conferences. He has extensive experience with software engineering and developing distributed software applications in diverse platforms.

He is a recipient of 2017 Special President Award from Fujitsu Laboratories, Best Demo Award at 2016 ACM ICN, 2015 Distinguished Leadership Award from Margo F. Souza Leadership Center, 2015 Margo Souza Entrepreneur in Training Award, an Achievement Award from 2015 IEEE MobileCloud, and several [fellowship awards](#) during his Ph.D. study at UC Merced.

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