COST CA20120 - INTERACT Training Day:

Recent Advances in Data Engineering for Networking

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Lecturer's Information

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Lecture Title: Recent Advances in Data Engineering for Networking

Lecture Abstract (250 words): To address the complex issues that larger and highly integrated networks face in the design, analysis, deployment and management phases, recent advances in data science and engineering technologies in both academia and industry have spurred the adoption of various Artificial Intelligence (AI)/Machine Learning (ML) platforms and frameworks in telecommunication network infrastructures. In this tutorial, we aim to provide a comprehensive and thorough overview of the recent advances in data engineering frameworks and link the capabilities of the data engineering ecosystem with a possible connection to future telecommunication systems in the context of network management and orchestration. Some special features of this tutorial are: a clear link between the data engineering ecosystem (including data connection, data ingestion, data processing & analysis, data storage, data monitoring & visualization and data management & orchestration frameworks) and recent developments in networking, an overview of standardization efforts in network management and orchestration and how these can be related to data engineering frameworks, the relationship to data science frameworks, ML platforms used in the industry, and related data engineering use cases for telecommunications networks will be discussed. Two examples on log management in NFV service orchestration and AI/ML-driven scaling of digital service will also be demonstrated. Finally, gap analysis, challenges, and future directions will be discussed.

CV (250 words):

ENGIN ZEYDAN received the PhD degree in February 2011 from the Department of Electrical and Computer Engineering at Stevens Institute of Technology, Hoboken, NJ, USA. Previously, he received his M.S. and B.S. degrees from the Department of Electrical and Electronics Engineering at Middle East Technical University, Ankara, Turkey, in 2006 and 2004, respectively. Dr. Zeydan has worked as an R&D engineer for Avea, a mobile operator in Turkey, between August 2011 and April 2016 in Istanbul, Turkey. He was with Turk Telekomunikasyon A.S between April 2016 to November 2018 working as a Senior R&D Engineer in Istanbul, Turkey. He was also a part-time instructor at Electrical and Electronics Engineering department of Ozyegin University Istanbul, Turkey between January 2015 and June 2018. Since November 2018, he has been with the

Communication Networks Division of the Centre Tecnològic de Telecomunicacions de Catalunya (CTTC) working as a Senior Researcher. His research areas include applications of data engineering/science for telecommunication networks and flexible mobile networks. He has been involved in many European and national level projects in collaborations with various industries and universities across Europe and Turkey. Some of these are H2020 projects MonB5G (as project coordinator), 5Growth and Clear5G, FP7 projects MOTO and CROWD, Eureka Celtic-Plus projects MEVICO, SIGMONA, PULPA and SHARING and ITEA project PAPUD.

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