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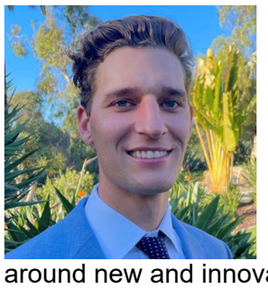
JOINT WEBINAR

Synchro-Waveform Data Analytics Architecture and Big Data Platform for Grid Operations and Situational Awareness

Hamed Valizadeh and Michael Balestieri, Southern California Edison

Emerging use cases involving vast amounts of high-resolution sensor data are prompting utilities to reconsider their conventional approaches to data handling. This talk will first introduce an open-platform solution for big data analytics, designed to effectively manage large volumes of synchro-waveforms and high-resolution sensor measurements, specifically targeting substation digital fault recorders. It will then describe how augmented machine learning can be supported and leveraged to detect subtle anomalies, such as incipient faults at the distribution grid level. The discussion will also cover the extended handling of various other data streams and sensor types that help address the challenges of locating incipient faults. Additionally, data engineering pipelines and scalable device management will be covered in detail.

Hamed Valizadeh has over 15 years of experience in the power industry and research institutions. He is currently a Senior Advisor with Southern California Edison in Irvine, CA, where he leads award-winning R&D projects in grid operations and artificial intelligence applications. Hamed holds a Ph.D. in Electrical Engineering, has secured NSF and DOE grants totaling over $46 million, is a Senior Member of IEEE, and has published more than 40 peer-reviewed papers, including in IEEE Transactions and technical reports.



Michael Balestrieri is an engineer on Southern California Edison's Grid Technology Development team where he leads technology demonstration projects around new and innovative solutions for the electric power grid. He began his career at SCE in 2017 where he has held various roles related to DER integration, smart grid devices, and grid resiliency /reliably. Michael attended California State University, Fullerton studying undergrad in Mechanical Engineering and Computer Science followed by a post bachelor certificate at University of California Irvine's Machine Learning and Data Science program.

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For more information on the IEEE Synchro-Waveform Task Force, visit https://ieee-synchrowaveform.engr.ucr.edu/. To join the mailing list, please email Jhi-Young Joo at joo3@llnl.gov.

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10:00 a.m. Pacific / 1:00 p.m. Eastern (1 hr.)
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