

Tri-Con Pre-Conference Workshop

Demystifying Artificial Intelligence and Machine Learning – Tools for the Future

TUESDAY 1:00 pm – 5:00 pm, Room 201 – 202:

Presented by the joint CWEA and CSAWWA Asset Management Committee

Presenters: **Craig Daly**, Chief of Water Facilities Division, City of Baltimore DPW
Brandon O’Daniel, Director and Data Scientist, Xylem,
Travis Wagner, Vice President, Digital Consultant, Trinnex
Davar Ardalan, AI Specialist, TulipAI
John Smith, Regional Manager, Haley Ward

Course Description:

Artificial Intelligence (AI) and Machine Learning (ML) are becoming more present in our day-to-day lives, from the generation of meeting minutes to predicting pipeline failure. These useful tools offer a range of benefits, providing efficiency and optimization to professionals but can be intimidating or confusing to those unfamiliar. AI and ML come with new terminology, a broad scope of applications, a rapid pace of development (with new advancements and applications emerging frequently), and potential ethical concerns surrounding bias, privacy, or job displacement. To address this, it is essential to provide clear, accessible explanations of AI and ML concepts and applications.

Learning Objectives:

In this workshop, utility professionals will embark on a journey to demystify the applications of AI and ML. During the session, we aim to provide a foundational understanding of these innovative technologies and their applications in the water and wastewater industries. Through a blend of presentations and case studies from utility leaders, and hands-on exercises, participants will:

- Increase their awareness and understanding of these modern tools,
- Learn through examples of how AI and ML can be used within the water and wastewater industry, and
- Navigate the logistics of embedding these tools into their existing day-to-day activities.

No prior technical knowledge is required – just a curiosity to explore the potential of these tools.*

*Description written with the assistance of ChatGPT

About the Speaker(s):

Craig Daly is a registered civil engineer with over 20 years of experience working for public utilities, private consultants, and publicly traded companies developing data-driven buried infrastructure asset management solutions. He has been responsible for developing comprehensive, data driven, risk assessment and asset management solutions that incorporate statistical and machine-learning methods to develop long-term asset plans. He is a recognized industry leader in risk modeling having established new and innovative modeling methods to help decision-makers realize maximum value from their linear asset management programs by bottom-connecting data to organizational goals, objectives and KPI's.

Travis Wagner is a seasoned water sector digital expert and business leader with over 20 years of experience in digital strategy and transformation, data collection, integration, management, advanced analytics, and software. He has developed, led, and grown digital businesses for over a decade and is passionate about helping customers optimize infrastructure decisions using a combination of hardware, software, and services. Mr. Wagner's experience encompasses asset integrity and management, operations, planning, data science, software and solutions development, hardware and technology expertise, and design. He has a successful track record in driving business growth, internal and client digital transformation, product and service innovation, and scalable solutions that deliver lasting and practical outcomes to manage infrastructure optimally. Mr. Wagner is responsible for Trinnex's Digital Consulting business that includes strategy development defining how digital technologies can be used to achieve utility business goals. This digital transformation planning helps organizations implement new technologies, streamline processes, and transform into a digital innovation culture. He also leads a data science as a service (DSaaS) offering that provides utilities a services-based model to optimize their planning and operations with artificial intelligence solutions as well as implementation/integration of large, complex digital projects that centralize, manage, and analyze data.

Brandon O'Daniel – To be submitted

Davar Ardalan – To be submitted

John Smith – To be submitted