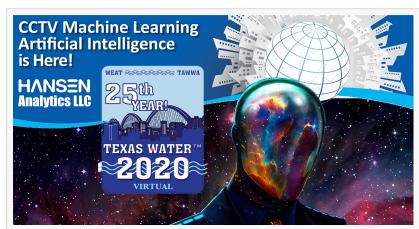# "CCTV Machine Learning Artificial Intelligence is Here" Virtual Session Available as Part of 2020 Texas Water Conference

As New Technology Replaces Visual Inspection, AI Coupled With Machine-Intelligent Probes Are Overhauling How Pipe Repairs Are Selected & Certified as Watertight

FORT WORTH, TEXAS, USA, July 15, 2020 /EINPresswire.com/ -- An online session presented by Chuck Hansen, Founder & CEO, Hansen Analytics, titled "CCTV Machine Learning Artificial Intelligence is Here" went live earlier today coinciding with the opening of the 2020 Texas Water Conference, held virtually.

Chuck Hansen, Founder & CEO, Hansen Analytics LLC, presents at the 2020 Virtual Texas Water Conference.

Artificial Intelligence coupled with machine-intelligent technologies are overhauling how pipe condition assessments are determined, repairs are prioritized & selected, and construction certified as watertight.

> " AI & Machine-Intelligent technologies are having a profound impact on the water business."
>
> *Chuck Hansen*

Sometimes, AI & Machine-based innovations benefiting from unbiased and unambiguous quantifications, result in significantly different outcomes in comparison to legacy inspection techniques.

Manually-coded Closed-Circuit Television (CCTV) inspection reports frequently result in operator bias, such as using the same code to identify different defects or different codes to identify the same defect, often occurring with different operators and frequently by the same operator, too.

Once repairs, renewals, or relining projects are completed, these same inconsistently are often evident in the approval of multi-million dollar Trenchless rehabilitation projects, including Cured-

In-Place Pipe (CIPP) projects, having undetected yet significant leakages and permeable pipe walls.

"After 50-years of using CIPP to line older pipes, we finally have technologies that can test full-length, 360-degree pipes for watertightness," stated Chuck Hansen, Founder & CEO, Hansen Analytics LLC.

"AI & Machine-Intelligent technologies are having a profound impact on the water business," stated Hansen.

Water Environment Association of Texas (WEAT), Water Environment Federation. (WEF), and Texas American Water Works (TAWWA), and American Water Works Association (AWWA) member pricing to attend the Virtual 2020 Texas Water Conference is $195. Non-member pricing to attend the Conference is $420, including a one-year membership in WEF or AWWA.

While many start-ups have begun deploying AI solutions for automating CCTV inspections, bringing much needed consistent reporting of defects, Hansen's presentation points out that basic flaws in using high resolution television cameras have limitations that cannot be overcome using AI.

Artificial Intelligence and Machine Learning Are Closer Than It Appear

Hansen Analytics maintains one of the largest video libraries of Cured-In-Place Pipe (CIPP) defects to help teach machine learning algorithms to identify and label anomalies to be followed up with low voltage conductivity leak detection.

"CCTV cameras, no matter whether computer-assisted or human-processed, still cannot tell whether cracks are superficial or go through a pipe wall," stated Hansen.

Since most pipes have grooved bell & spigot joints to help pipe layers efficiently assemble sections of pipe together, cameras are not able to test the watertightness of each joint or judge whether joints are fully sealed.

But, AI is being successfully applied on a daily basis to serve an important market niche, when

combined with other technologies,

As part of Hansen's session, attendees learn how AI has achieved a 99% accuracy rate in identifying customer tap locations, allowing new technology to specifically identify pipe leakage rates to pipe walls and customer's lateral connection.

Historically, older sewer evaluation studies frequently determined that no defects were found at pipe joints or tap connections, leading many to (incorrectly) assume infiltration was primarily due to defects in customer service laterals, i.e. pipes owned and maintained by property owners.

AI is also useful to independently review recently lined CIPP pipes, especially where cities and engineering firms specify ASTM F1216 for CIPP installations & acceptance.

Backed by industry contractors and suppliers, ASTM 1216 recommends CIPP inspections to be limited to 'visual inspection only' if any customer laterals are reinstated.

As a result, little to no testing takes place to ensure new pipes and customer lateral reconnections are watertight.

AI applied to newly installed CIPP is able to examine lined pipes on a frame-by-frame basis; able to automatically label possible anomalies, including accelerant burns, accidental cuts, bad service reconnections, blisters, delamination, defective epoxy, discoloration, foreign objects, pinholes, poor curing, overcooking, stretching, wet-out failures, and wrinkles, including buckling, fins, folds, lifts, & ridges.

AI can help target specific CIPP liners to be evaluated with next generation leak detection technologies immediately following curing or prior to warranty expiration in accordance with newly reproved ASTM F2550.

The Texas Commission on Environmental Quality (TCEQ) has accredited Hansen's "on demand" session for water professions to earn continuing education credit (CEC) to help maintain licensing.

ABOUT HANSEN ANALYTICS LLC
Founded in 2006, Hansen is dedicated to aggregating municipal and investor-owned utility data to streamline decision support. Founding Hansen Software in 1983 (later called Hansen Information Technologies), principals of Hansen Analytics are pioneers in municipal & utility asset data science, artificial intelligence, machine learning, and utility management helping thousands of cities and utilities create digital twin environments to help decipher and interpret operational, financial, and capital efficiencies.

#ai #aicctv #artificialintelligence #assetmanagement #awwa #cipp #cctv #computervision #conditionassessment #deeplearning #digitaltwin #infrastructure #inspection #leakdetection #pipeline #rehabilitation #sewerai #sewer #tawwa #trenchless #wastewater #weat #wef

Janine Mullinix
Hansen Analytics LLC
+1 916-779-0660
email us here
Visit us on social media:
LinkedIn

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