

SFPE ATLANTA

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Artificial Intelligence and the Plan Review Process

When Technology, Innovation and Code Requirements Meet

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An attempt will be made to find how to make machines use language, form abstractions and concepts, solve kinds of problems now reserved for humans, and improve themselves.

This impressive sounding quote is not some revelation from Stephen Hawking or Elon Musk, but rather from a group of mathematicians at Dartmouth College in 1955. It was included as part of a workshop proposal to show how a machine could be trained to simulate the learning process and problem-solving capability in the same manner as a person. It is the first recorded document that used the term “artificial intelligence”, a phrase that is now in the everyday lexicon of schoolchildren, academics, financial and business professionals, as well as the architectural and engineering community.

Architectural drawings and plans, deferred submittal documents such as fire alarm and sprinkler design plans, are full of data points that are conducive to utilization of artificial intelligence (AI) to compare plans and calculations to the requirements of prevailing codes and standards. Dimensional criteria on these documents can be used to calculate linear dimensions, areas, and volume. Symbols and legends depicting everything from exit signs, to doors, to stairs, along with fire alarm initiating and notification components and the myriad symbols used on contractor shop drawings for sprinkler systems represent various forms of data that can be identified and utilized to compare against code requirements using AI concepts such as machine learning.

This presentation will focus on a brief history of AI and its accelerated emergence in the past two years; trends in future resource challenges in the plan review process; how AI can be used to supplement compliance checks by the authority having jurisdiction (AHJ); and also by members of the developer/ownership team as well as the architectural team.

A demonstration of the capability of the proprietary CodeComply.Ai platform showing how it can accomplish many of the same reviews that are currently done manually by consultants, AHJ's, and others in the built environment design and construction stream will also be included.