



Seminar Announcement

14 ottobre 2024 ore 12:00 – Aula 160/3

Harnessing LLMs for Enhanced Analysis of Highway Construction Accidents

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For the past 30 years, Dr. Khazanovich has been involved in various aspects of pavement research, design, and evaluation, including performance prediction modeling, non-destructive testing, and finite element modeling. During the development of the AASHTO Mechanistic-Empirical Pavement Design Guide, Dr. Khazanovich served as a member of the Rigid Pavement Leadership Team, where he was responsible for structural modeling of rigid pavements and overlays, developing neural networks to predict critical structural responses, subgrade characterization procedures, and faulting prediction models. He is an Associate Editor of the International Journal of Pavement Engineering and a founding member, as well as a member of the Board of Governors, of the Academy of Pavement Science and Engineering.

Large language models (LLMs), exemplified by OpenAI's Generative Pre-trained Transformer (GPT), represent a new frontier in generative AI. This presentation will provide a brief introduction to LLM technology and discuss the opportunities it offers to transform pavement engineering. One such opportunity is improving the understanding of the causes of highway construction accidents. By leveraging the wealth of publicly available data related to accidents and investigations, previously underutilized textual data can now be explored with the emergence of LLMs. The presentation introduces an approach to utilizing this textual data with a specific focus on the highway sector of the construction industry, which encompasses a wide range of construction activities. OpenAI's GPT-3.5 LLM was guided to perform summarization and classification across the entire database, yielding unique insights that would have otherwise been difficult to extract from the database alone.

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CONTATTI

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