# Exploring Use of Generative AI for Representing and Reasoning with Non-Functional Requirements

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## Abstract

Non-functional requirements (*NFRs*), such as usability, safety, security, and the like, describe how well the software system should do what it's intended to do functionally, and, as such, should be addressed well. However, addressing NFRs well is not easy. In this talk, I will explore using Generative AI for facilitating representation and reasoning with NFRs, at a time when interest in utilizing Machine Leaning/Generative AI seems to be spreading like a wildfire in many industries and research areas. Unsurprisingly, software engineering more broadly, and requirements engineering more specifically, seems no exception to this. After discussing a problem-driven, ontology-based approach to question (prompt) engineering, I will briefly describe some critical challenges going forward at the end.

## Biography

Lawrence Chung has been working in Requirements Engineering, System/Software Architecture and Systems Engineering. He was the principal author of the research monograph *Non-Functional Requirements in Software Engineering*, and also has been involved in developing *RE-Tools* (a muiti-notational requirements engineering tool). A paper he co-authored on NFRs has been selected this year by the *IEEE Transactions on Software Engineering (TSE)* editorial board as one of the most influential in its 50-year anniversary celebration. He has been a co-editor-in-chief for *International Journal of Innovative Software (IJIS)* and *International Journal of Big Data Intelligence and Applications (IJBDIA)*, associate editor for *Requirements Engineering Journal (REJ)* and editorial board member for *International Journal of Networked and Distributed Computing (IJNDC)*, and editor for *ETRI Journal (ETRIJ)*. He is currently on the faculty of Computer Science-Software Engineering at University of Texas at Dallas. He received his Ph.D. in Computer Science in 1993 from University of Toronto.