

Geotechnical Engineering and Judgment in the Information Age

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“Very few really seek knowledge in this world. Mortal or immortal, few really ask. On the contrary, they try to wring from the unknown the answers they have already shaped in their own minds - justification, explanations, forms of consolidation without which they can't go on. To really ask is to open the door to the whirlwind. The answer may annihilate the question and the questioner.” Anne Rice, The Vampire Lestat

Abstract

The products of the Information Age give geotechnical engineers powerful tools to perform their work. One view of geotechnical engineering is that Information Technology (IT) tools may replace many of the functions that geotechnical engineers now perform. This view can be framed to argue that the right IT tools will even replace the need for engineering judgment. Since geotechnical engineers rely heavily on their engineering judgment to formulate and defend their arguments, this view would mean a major change in the way we do geotechnical engineering. This paper looks at geotechnical engineering in today's IT dominated world and considers ways that geotechnical engineering may change as the IT tools become increasingly powerful and pervasive. The paper's aim is to stimulate people's thinking about how we can make more effective use of IT tools in our future work. For experienced engineers, the result is insight to the important role of engineering judgment in an IT dominant world. For young engineers, the paper provides perspective on the role of IT tools in engineering practice and how they may develop their judgment skills. For non-engineers, such as owners, regulators and attorneys, the paper can help them better understand how geotechnical engineers think, or should think.

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