Abstract

Case Base Reasoning (CBR) is a technology from Artificial Intelligence where the primary knowledge source is a memory of stored cases, recording specific prior episodes.

In Macau, due to its soil characteristics, pile foundations are commonly used for civil construction purposes and related data is available from different sites, which can be useful for future works.

This paper introduces a Decision Support System for Pile Foundations implemented by means of Case Base Reasoning (CBR) technology and based on data related to different sites in Macau, with different soil characteristics and where pile foundations were used.

The system aims to help in the definition of the characteristics and design resistance of foundation piles, making use of relevant experience in comparable situations.

This system can help on saving pile load tests necessary to evaluate the bearing capacity of the piles driven in one new site, when some similar experienced information is available in the memory of cases stored in the CBR libraries. Furthermore, the system can help on increasing the reliability of the results given by the Hiley Formula using the adjusted parameters values already used in similar situations.