Modelling Pile Capacity Using Generalised Regression

Modelling of pile installation using the material point ...
pile group spacing, soil-water content, and pile material on average negative skin friction is investigated. From these test sequences, generalized con clusions are drawn. Various means of preventing negative skin friction from occurring have also been examined, and the use of asphalt coatings on the pile is shown to be quite successful.

Plaxis Simulation of Static Pile Tests and Determination ...
CHAPTER 16 DEEP FOUNDATION II: BEHAVIOR OF LATERALLY LOADED VERTICAL AND BATTER PILES 16.1 INTRODUCTION When a soil of low bearing capacity extends to a considerable depth, piles are generally used to transmit vertical and lateral loads to the surrounding soil media. Piles that are used under tall

(PDF) Modelling pile capacity using Gaussian process ...
The results indicate that the proposed GN model can be considered as a generalization of a hyperbolic model and an existing generalized nonlinear softening model and is expected to cover a wide range of variations in skin friction-displacement data of axially loaded piles.

BEHAVIOR OF NEGATIVE SKIN FRICTION ON MODEL PILES IN ...
Modelling of pile response in laterally spreading liquefiable ground springs, while t-z springs act in simulating shaft friction. Additionally, the pile tip response is represented using a q-z spring. These springs are linked to slave nodes which are subsequently constrained to pile nodes via equal constraints.

CHAPTER 16
pile capacity. This is of more concern for piles in clays as for them the end bearing usually contributes a small part in the overall pile capacity; while skin friction along the shaft constitutes the major portion of the pile function especially when there is no reliable soil layer at the end point of the pile.

Modeling Pile Capacity Using Support Vector Machines and ...
Radial basis function and polynomial kernel based support vector machines were used to model the total pile capacity and results were compared with a generalized regression neural network approach. A total of 81 data set were used to train, whereas the remaining 24 data sets were used to test the created model.

Application of Developed New Artificial Intelligence ...
The models output is the pile capacity (interpreted failure load). Additional input variables are included for modelling the load-settlement behaviour of piles. They include settlement, settlement increment and current state of load-settlement. The output is the next state of load-settlement.

Generalized nonlinear model describing softening and ...
In this study, a neural-fuzzy (NF) system is combined with group method of data handling (GMDH) in order to estimate the axial bearing capacity of driven piles. To reach optimum design of this...

Shear strength prediction of FRP reinforced concrete ...
axial capacity prediction of pile .This study employs the Relevance Vector Machine(RVM) and Multivariate Adaptive Regression Spline (MARS) for prediction of axial capacity of driven piles and drilled shafts using data of in-situ pile load tests and Cone Penetration Test(CPT) results. RVM is a statistical learning method proposed by Tipping

Modelling Pile Setup in Natural Clay Deposit Considering ...
Modelling of pile installation using the material point method (MPM) @inproceedings{Phuong2014ModellingOP, title={Modelling of pile installation using the material point method (MPM)}, author={N.T.V. Phuong and A. Frits van Tol and Ahmed Elkadi and Alexander Rohe}, year={2014} }

Modeling Pile Capacity Using Support Vector Machines and ...
predict the ultimate bearing capacity of piles based on data simulated using previously suggested models and also in situ pile loading test results. Abu-Kiefa (199B) used a probabilistic neural network model, generalized regression neural network (GRNN), to predict the pile load bearing capacity considering the contributions of the tip and shaft

Modelling Pile Capacity and Load-Settlement Behaviour of ...
The aim of this work is to study new methods of pile foundations modeling using Plaxis 3D Foundation, determination of pile settlements, reaction piles influence on test pile, and comparison of results with the methods of calculating the bearing capacity and pile settlement in accordance with DBN

Modeling Pile Capacity Using Support Vector Machines and ...
Modeling Pile Capacity Using Support Vector Machines and Generalized Regression Neural Network. This note investigates the potential of support vector machines based regression approach to model the static pile capacity from dynamic stress-wave data. A data set of 105 prestressed precast high strength concrete spun pipe piles is used.

Modelling pile capacity using Gaussian process regression ...
Modeling Pile Capacity Using Support Vector Machines and Generalized Regression Neural Network Article in Journal of Geotechnical and Geoenvironmental Engineering 134(7) · July 2008 with 23 Reads

Modelling Pile Capacity Using Generalised
MODELLING PILE CAPACITY USING GENERALISED REGRESSION NEURAL NETWORK Mahesh Pal, Associate Professor, Department of Civil Engineering, NIT Kurukshetra, mpce_pal@yahoo.co.uk ABSTRACT: This paper report the results of generalized regression neural network (GRNN) based modelling approach to predict the load-bearing capacity of piles.

Lateral load bearing capacity modelling of piles in ...
Modelling pile capacity using Gaussian process regression Article (PDF Available) in Computers and Geotechnics 37(7):942-947 · November 2010 with 383 Reads How we measure 'reads'

(PDF) MODELLING PILE CAPACITY USING GENERALISED REGRESSION ...
Therefore, the results suggest improved performance by the GP regression approach, in comparison to both neural network and SVM approaches, for modelling load-bearing capacity of piles with this dataset as well. Download : Download full-size image; Fig. 5. Actual vs. predicted values of pile capacity using the second dataset.

Modelling of pile response in laterally spreading ...
This paper presents a model based on generalized regression neural network (GRNN) for the predictions of shear strength of FRP reinforced concrete members with no transverse reinforcement. A database of 196 test specimens, failed in shear, is used to train and test the GRNN model. ... (2008) Modeling pile capacity using support vector machines ...

MODELLING PILE CAPACITY USING GENERALISED REGRESSION ...
Generally, about In order to judge the usefulness of GRNN based modelling one-third of the data are used as the testing data, so 59 approach in predicting pile load capacities, its outputs are 812 Modelling pile capacity using generalised regression neural network compared with ANN based modelling approach.