

- v. The agreement of the ANN application and Minitab 17 software on the intercept and slope for the predicted and experimental are 86 % and 100 % respectively.
- vi. The characteristic distribution results of the PKS-concrete showed that the estimates are within the 95 % confidence limits (CI), and very significant ($P < 0.05$).
- vii. The estimated values are within the specified lower and upper limits of CI.

Reference

1. Elinwa AU (2018). "Characteristics of palm kernel shell concrete". *Advancements in Materials*, 2, 75-88. DOI: 10.31058/j.am.2018.24003.
2. Elinwa, AU and Okhide AA (2020). Artificial neural network application to the compressive strength of palm kernel shell concrete. *MOJ Civil Engineering*, 6 (1); 1-10. DOI: 10.15406/mojce.2020.06.00164.
3. MA Faruqi, R Agarwala, J Sai, A Francisco (2015). Application of artificial intelligence to predict compressive strength of concrete from mix design parameters: A structural engineering application. *Journal of Civil Engineering Research*, 5(6), 158-161. DOI: 10/5923/j.jce.20150506.05.
4. DV Dao, HB Ly, SH Trinh, TT Le, BT Pham (2019). "Artificial intelligence approaches for prediction of compressive strength of geopolymers concrete." *Materials*, 12, 983, 1-17.
5. ACI 211-91 Standard Practice for selecting Proportions for Normal, Heavyweight, and Mass Concrete, ACI: Farming Hills, MI. USA.
6. *BS EN 196-3 (2005)*. Methods of testing cement. Determination of setting time and soundness.
7. *BS EN 1097-6 (2013)*. Tests for mechanical and physical properties of aggregates. Determination of particle density and water absorption.
8. Traore YB, Messan A, Hannaw K, Gerald J, Prince-Agbodjan and Tsobnang F. Experimental investigations on the physical and mechanical properties of a lightweight concrete using oil palm shell as coarse aggregate. *Journal of Materials Science and Engineering*, 2018, A7 (5-6), 157-168.
9. Shafiq P, Jumaat MZ, Mahmud BM, Abd- Hamid NA. Lightweight concrete made from crushed oil palm shell: Tensile strength and effect of initial curing on compressive strength. *Construction and Building Materials*, 2012, 27, 252–258
10. NA Sulyman (2005). Palm kernel concrete for structural use – A preliminary investigation. *Global Journal of Environmental Sciences*, 4(1), 87-91.
11. Mannan, M. A.; Ganapathy C. Mix Design for Oil Palm Shell Concrete. *Cement and Concrete Research*, 2001, 31(9), 1323-5, DOI: 10.1016/S0008-8846 (01) 00585-3.
12. Gupta SK (2012). "The relevance of confidence interval and P-value in inferential statistics." *Indian J. Pharmacol*, 44 (1), 143-144. DOI: 10.4103/0253-7613-91895.
13. Davies HT, Crombie IK (2009). "What are confidence intervals and P-values. Available from: http://www.medicine.ox.ac.uk/bandolier/painres/download/whatis/what_are_conf_inter.pdf.