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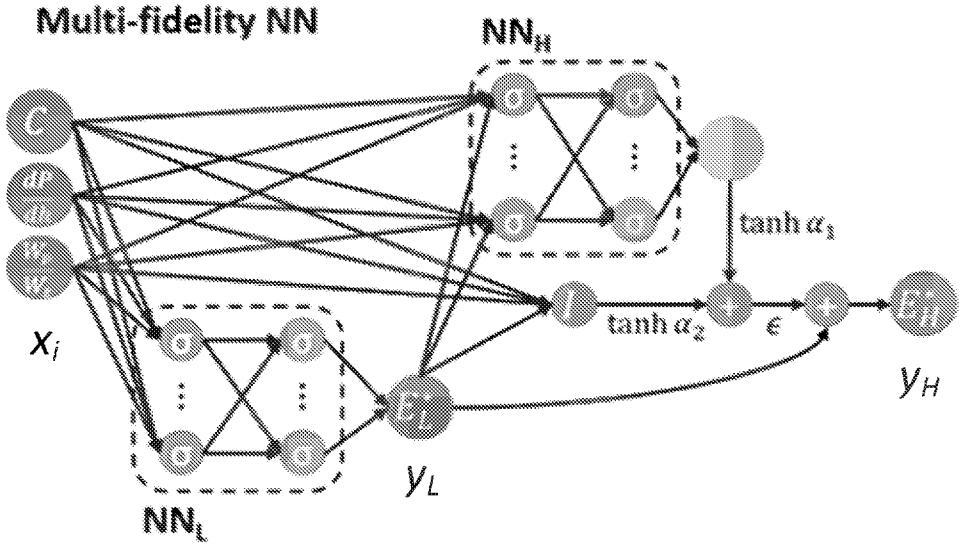

FIG. 2C

(57) Abstract: Methods and apparatus for extracting one or more mechanical properties for a material based on one or more indentation parameters for the material. The method comprises receiving load-displacement data from one or more instrumented indentation tests on the material, determining, by at least one computer processor, the indentation parameters for the material based, at least in part, on the received load-displacement data, providing as input to a trained neural network, the indentation parameters for the material, determining, based on an output of the trained neural network, the one or more mechanical properties of the material, and displaying an indication of the determined one or more mechanical properties of the material to a user of the computer system.

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