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**(54) Title (EN):** SYSTEM AND METHOD FOR PROMOTER PREDICTION IN HUMAN GENOME

**(54) Title (FR):** SYSTÈME ET PROCÉDÉ DE PRÉDICTION DE PROMOTEUR DANS LE GÉNOME HUMAIN

**(57) Abstract:**

**(EN):** A method for training a deep neural network model (100) based on a known genome sequence (500) includes receiving (1100) the known genome sequence (500); training (1102) the deep neural network model (100) with a current negative set (502) obtained from the known genome sequence (500); applying (1104) the deep neural network model (100) to the known genome sequence (500) and recording false positive sets; selecting (1106) a subset of the new false positive sets (508); updating (1108) the current negative set (502) with the new false positive sets (508); and repeating (1110) the steps of training, applying, selecting and updating until a number of the new false positive sets is smaller than a given threshold.

**(FR):** La présente invention concerne un procédé d'apprentissage d'un modèle de réseau neuronal profond (100) sur la base d'une séquence génomique connue (500), ledit procédé consistant à recevoir (1100) la séquence génomique connue (500) ; à former (1102) le modèle de réseau neuronal profond (100) avec un ensemble négatif actuel (502) obtenu à partir de la séquence génomique connue (500) ; à appliquer (1104) le modèle de réseau neuronal profond (100) à la séquence génomique connue (500) et à enregistrer de faux ensembles positifs ; à sélectionner (1106) un sous-ensemble des nouveaux ensembles faux positifs (508) ; à mettre à jour (1108) l'ensemble négatif actuel (502) avec les nouveaux ensembles faux positifs (508) ; et à répéter (1110) les étapes d'apprentissage, d'application, de sélection et de mise à jour jusqu'à ce qu'un nombre de nouveaux ensembles faux positifs soit inférieur à un seuil donné.

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**Declarations:**

Declaration of inventorship (Rules 4.17(iv) and 51bis.1(a)(iv)) for the purposes of the designation of the United States of America