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(54) Title: SYSTEM FOR TRAINING AN ENSEMBLE NEURAL NETWORK DEVICE TO ASSESS PREDICTIVE UNCERTAINTY

(57) Abstract: The system (200) for training an ensemble neural network device configured to execute the steps of: – providing (205) a set of exemplar data, comprising at least one set of inputs (220) and at least one set of outputs (225) associated to the set of inputs, to a neural network device comprising an ensemble (230) of neural network devices, configured to provide independent predictions based upon the exemplar data, – operating (210) the neural network device based upon the set of exemplar data, – obtaining (215) the trained neural network device configured to provide an output, – the neural network device further comprising at least two independent activation functions, whereof at least two of the independent activation functions are representative of the statistical distribution of the plurality of independent predictions, the neural network device being configured to provide at least one output (235, 236) for at least two said independent activation functions and – the step of operating further comprising a step of operating each neural network device of the ensemble to provide an ensemble of outputs, the neural network device being trained to minimize the value representative of at least two said independent activation functions.



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