ELECTRO-PHOTONIC NETWORK FOR MACHINE LEARNING

ABSTRACT

Various embodiments provide for a circuit package including an electronic integrated circuit comprising a plurality of processing elements, and a plurality of bidirectional photonic channels, e.g., implemented in a photonic integrated circuit underneath the electronic integrated circuit, that connect the processing elements into an electro-photonic network. The processing elements include message routers with photonic-channel interfaces. Each bidirectional photonic channel interfaces at one end with a photonic-channel interface of the message router of a first one of the processing elements and at the other end with a photonic-channel interface of the message router of a second one of the processing elements and is configured to optically transfer messages (e.g., packets) between the message routers of the first and second processing elements.

Fig.1A