ComS 474
Homework 6

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9) $W^{(0)} : 3 \times 3, \ W^{(1)} : 4 \times 2, \ W^{(2)} : 3 \times 2$

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10) $x^1 = \phi \left[\begin{pmatrix} 0.1 & 0.1 & 0.1 \\ 0.1 & 0.1 & 0.1 \\ 0.1 & 0.1 & 0.1 \end{pmatrix} \begin{pmatrix} 1 \\ 1 \\ 1 \end{pmatrix} \right] = \begin{pmatrix} 0.3 \\ 0.3 \\ 0.3 \end{pmatrix}$

$x^2 = \phi \left[\begin{pmatrix} 2 & 2 & 2 & 2 \\ 2 & 2 & 2 & 2 \end{pmatrix} \begin{pmatrix} 1 \\ 0.3 \\ 0.3 \\ 0.3 \end{pmatrix} \right] = \begin{pmatrix} 3.8 \\ 3.8 \end{pmatrix}$

$x^3 = \phi \left[\begin{pmatrix} 1 & 1 & 1 \\ 1 & 1 & 1 \end{pmatrix} \begin{pmatrix} 1 \\ 3.8 \\ 3.8 \end{pmatrix} \right] = \begin{pmatrix} 8.6 \\ 8.6 \end{pmatrix}$

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11) $\delta^{(2)} = \begin{pmatrix} 8.6 \\ 8.6 \end{pmatrix} - \begin{pmatrix} 1 \\ 0 \end{pmatrix} = \begin{pmatrix} 7.6 \\ 8.6 \end{pmatrix}$

$\delta^{(1)} = \begin{pmatrix} 0(1-0) \\ 3.8(1-3.8) \\ 3.8(1-3.8) \end{pmatrix} \circ \left(\begin{pmatrix} 1 & 1 & 1 \\ 1 & 1 & 1 \end{pmatrix} \right)$

UNFINISHED