vastaus2.md 11/3/2024

Kotitehtavat_2.pdf

Teht 1

$$egin{aligned} A_1 &= W_1 A_0 \ A_1 &= egin{bmatrix} 1.1 & -1.3 & 1.5 \ 0.1 & 2.0 & 1.7 \end{bmatrix} egin{bmatrix} 3 \ 2 \ 5 \end{bmatrix} \ A_1 &= egin{bmatrix} 1.1 * 3 - 1.3 * 2 + 1.5 * 5 \ 0.1 * 3 + 2.0 * 2 + 1.7 * 5 \end{bmatrix} \ A_1 &= egin{bmatrix} 8.2 \ 12.8 \end{bmatrix} \end{aligned}$$

$$A_2=W_2A_1$$

$$A_2 = [\, 2.0, -1.2 \,\,] \,\, [\, 8.2 \,\, 12.8 \,\,]$$

$$A_2 = [2.0 * 8.2 - 1.2 * 12.8]$$

$$A_2 = [\,1.04\,\,]$$

Teht 2

$$g(x)=rac{1}{1+e^{-x}}$$

$$A_1 = g(W_1 A_0)$$

$$A_1 = g([\, 1.1 \quad -1.3 \quad 1.5 \ 0.1 \quad 2.0 \quad 1.7 \] \ [\, 3 \ 2 \ 5 \])$$

$$A_1 = g([\,1.1*3 - 1.3*2 + 1.5*5\ 0.1*3 + 2.0*2 + 1.7*5\quad])$$

$$A_1 = [\, 0.99972542 \; 0.99999724 \; \,]$$

$$A_2 = g(W_2 A_1)$$

$$A_2 = g([2.0, -1.2] [0.99972542 0.99999724])$$

$$A_2 = g([2.0*0.99972542 - 1.2*0.99999724])$$

$$A_2 = [\,0.68985771\,\,]$$