

CPEN455: Deep Learning Homework Template

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1 Problem 1

2 Problem 2

A 2.1

To insert inline equations, use $\frac{1}{1-p}$. To bold characters in equations, type **b**. For script style letters, use \mathcal{N} .

For a displayed equation, you can use

$$P(k) = \binom{N}{k} p^k (1-p)^{N-k} \quad (1)$$

Or you can also use

$$f'(x) = \lim_{\Delta x \rightarrow 0} \frac{f(x + \Delta x) - f(x)}{\Delta x}$$

Also for series equations, you can use

$$A = 2 \int_{-r}^r \sqrt{r^2 - x^2} dx \quad (2)$$

$$= 2r^2 \int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} \cos^2 \theta d\theta \quad (3)$$

$$= \pi r^2 \quad (4)$$

For matrices, format as follows:

$$\begin{bmatrix} x_{11} & x_{12} & \cdots & x_{1n} \\ \vdots & \vdots & & \vdots \\ x_{m1} & x_{m2} & \cdots & x_{mn} \end{bmatrix} \quad (5)$$

For more math symbols, check [Wiki](#), [LATEX Mathematical Symbols](#), Google, or ask Chat-GPT.

A 2.2

If you want to insert a picture:

Figure 1: Caption for the image.

A 2.3

To highlight words in a different color, you can use `textcolor` to turn something blue. You can also `define custom commands` for frequent use.