

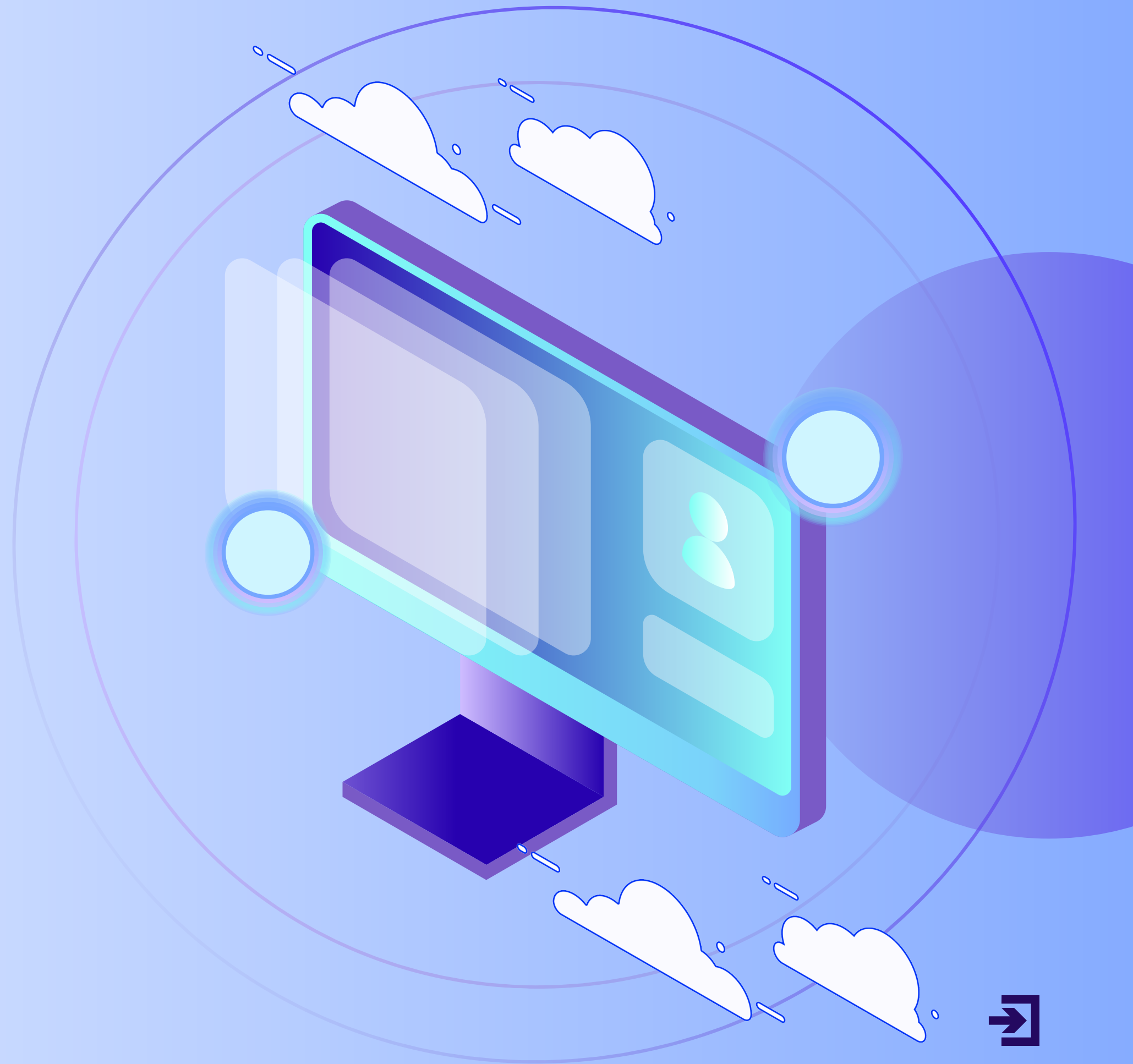


Procesamiento natural del  
Lenguaje

# PROBLEMAS DE BPTT



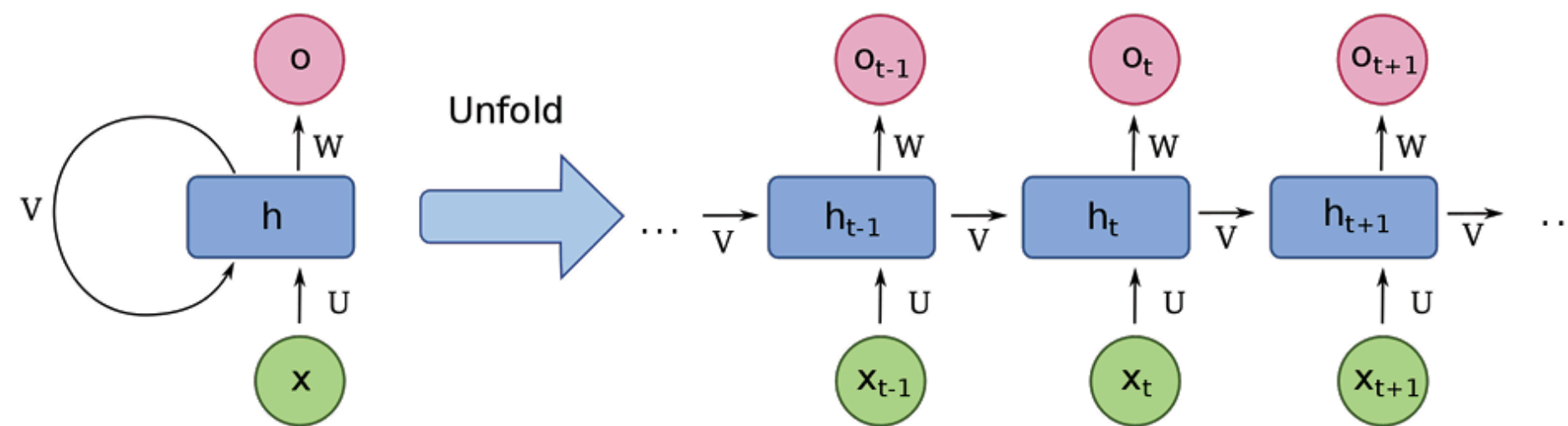
ArmandoLluen



# RED NEURONAL RECURRENTE



## Recurrent neural network

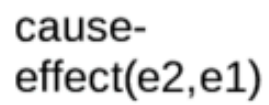


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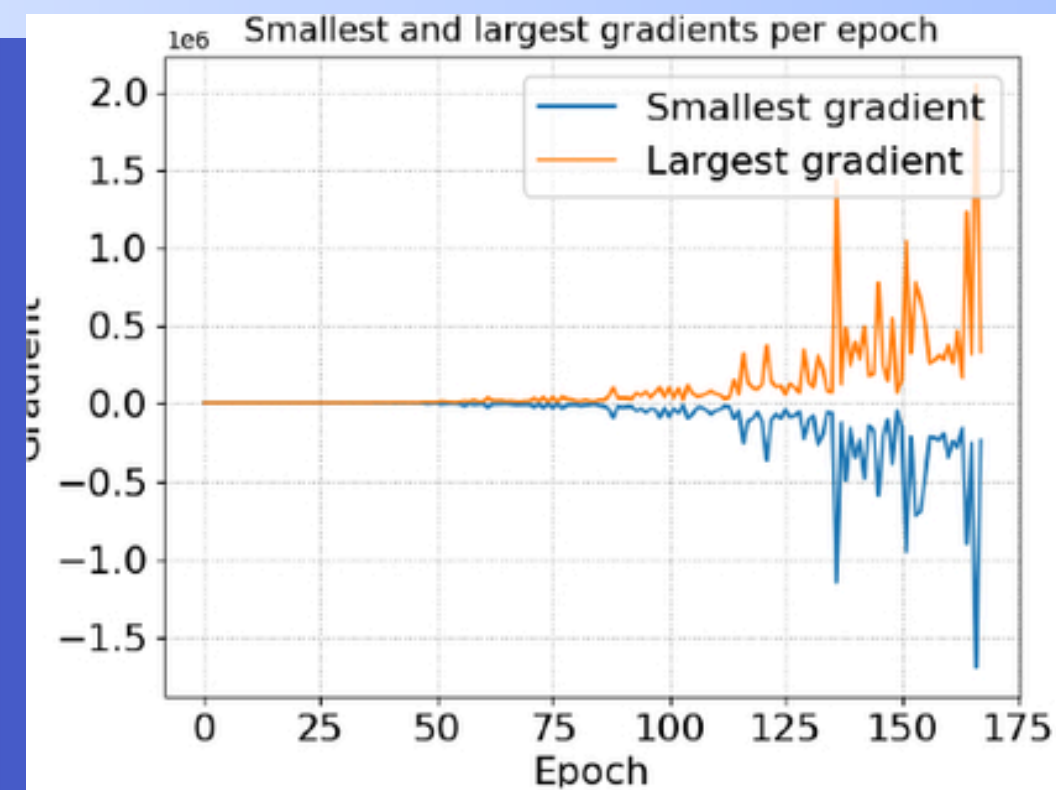
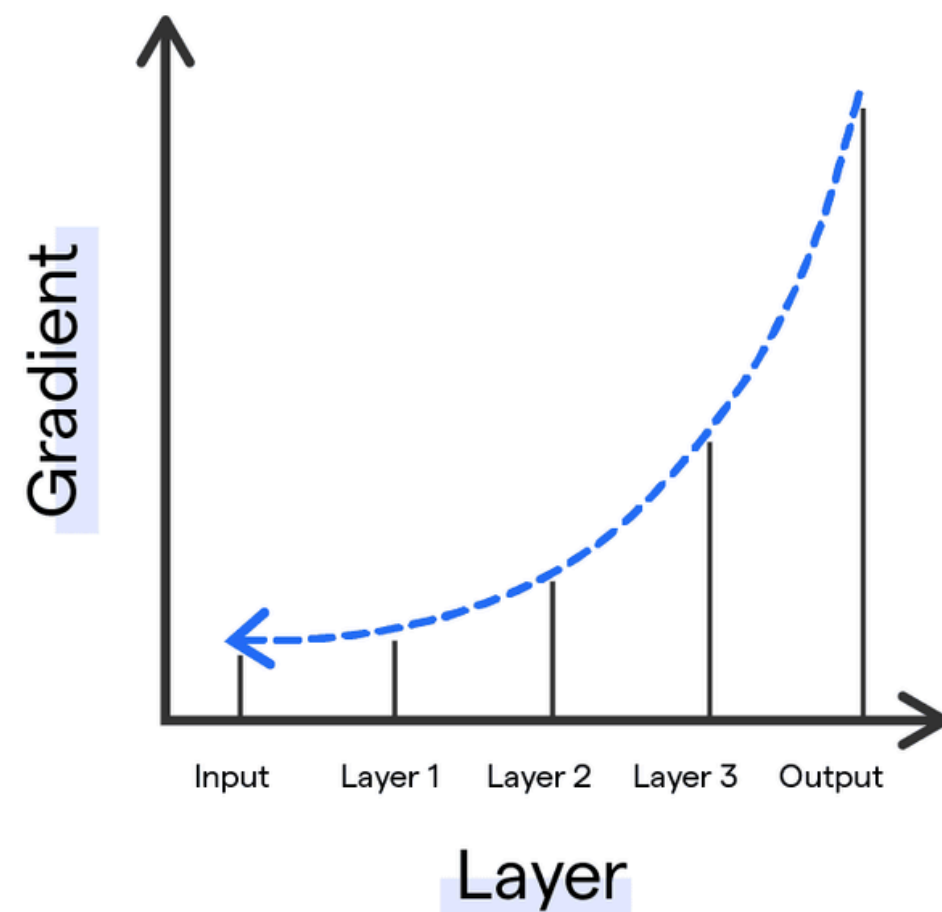
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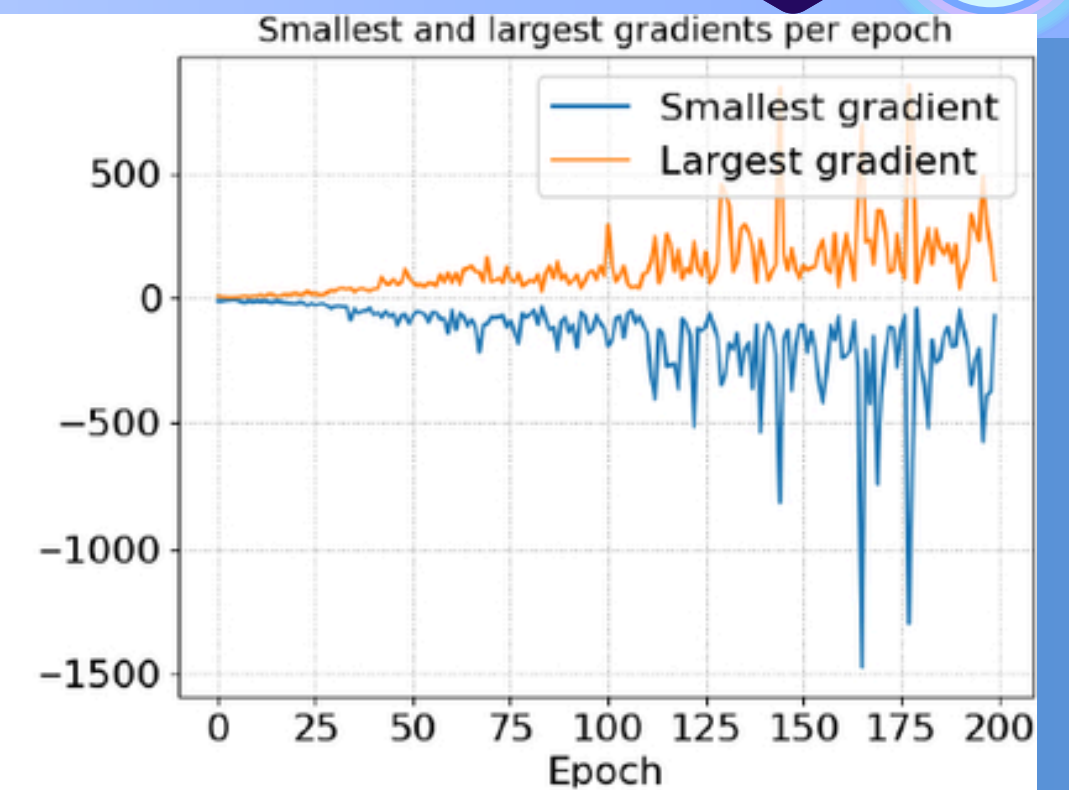
# VANISHING GRADIENT



## Vanishing Gradient Problem



(a) 0-1 normalization

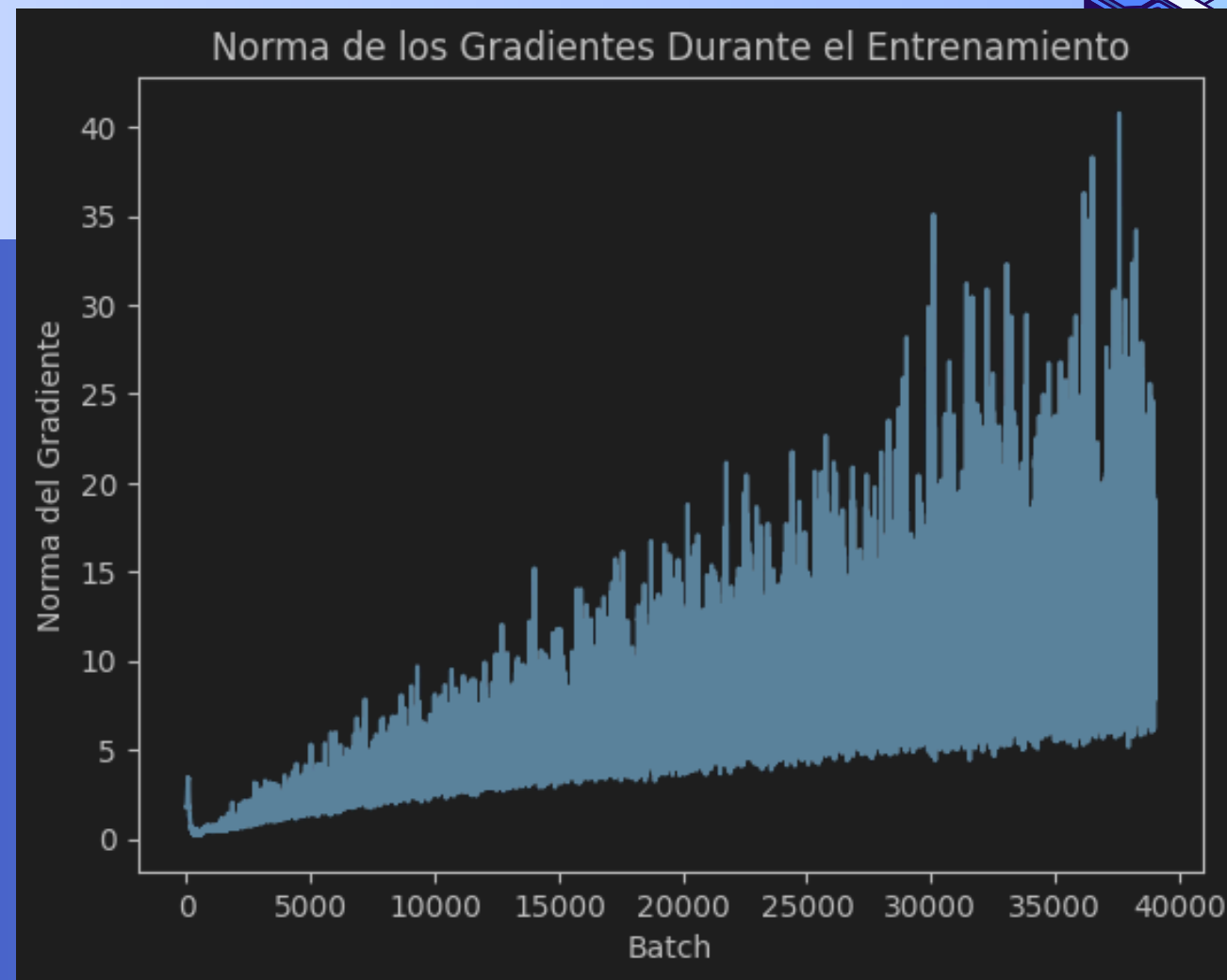
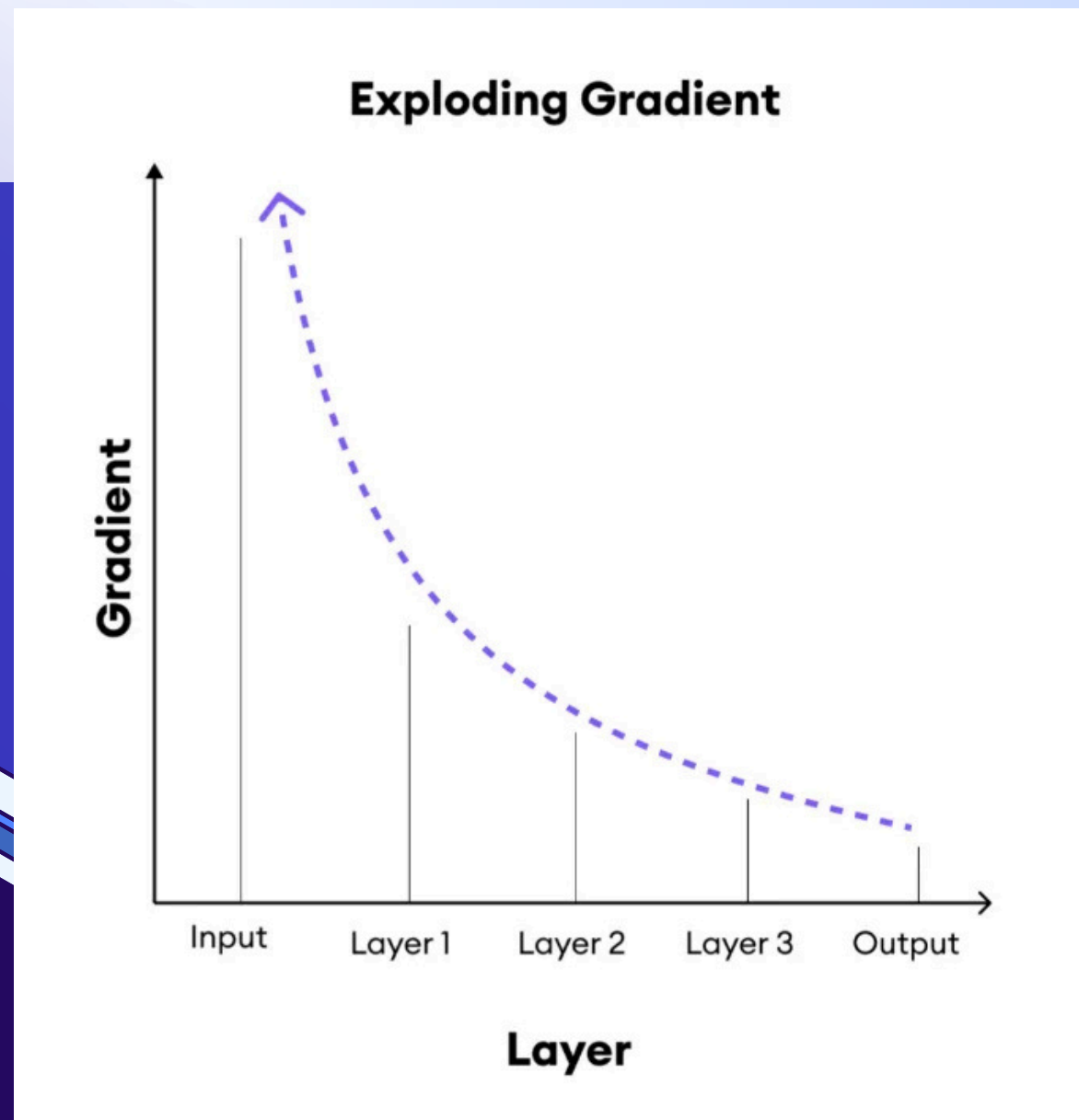
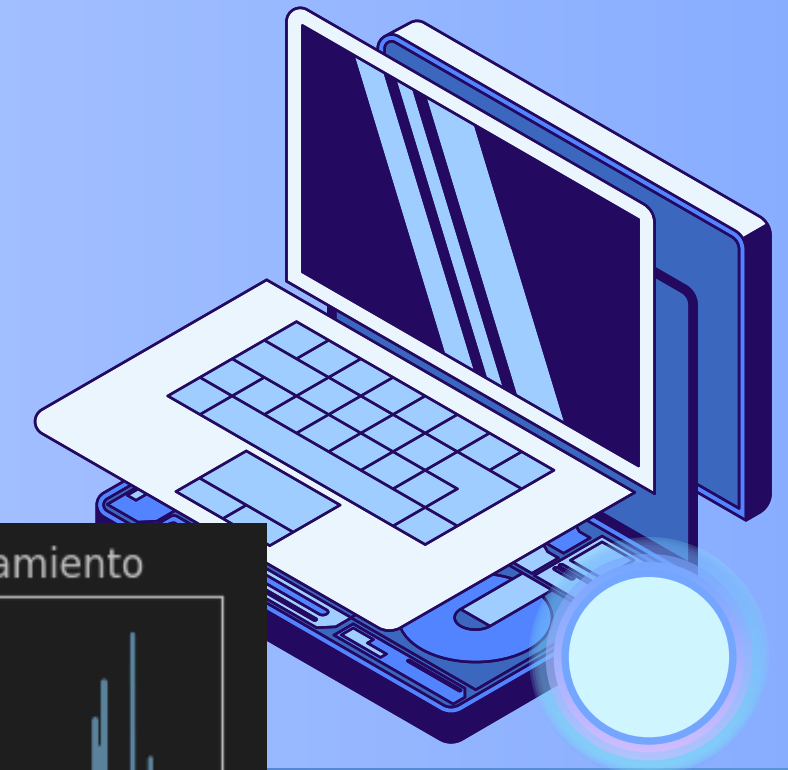


(b) Z-score normalization





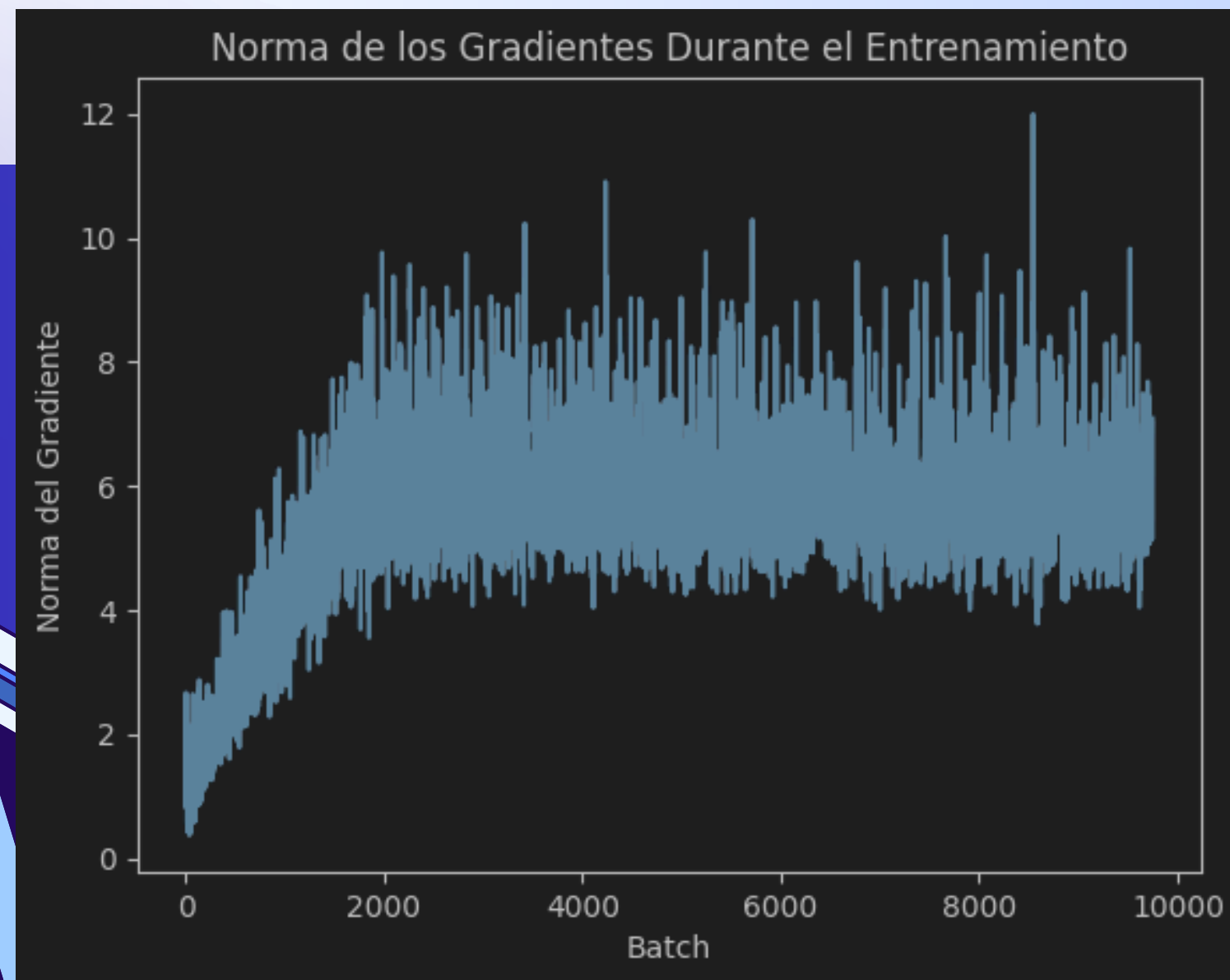
# EXPLOTING GRADIENT



Pérdida Promedio en Validación: 1.1901  
Perplejidad: 3.2875  
Exactitud (Accuracy): 64.67%



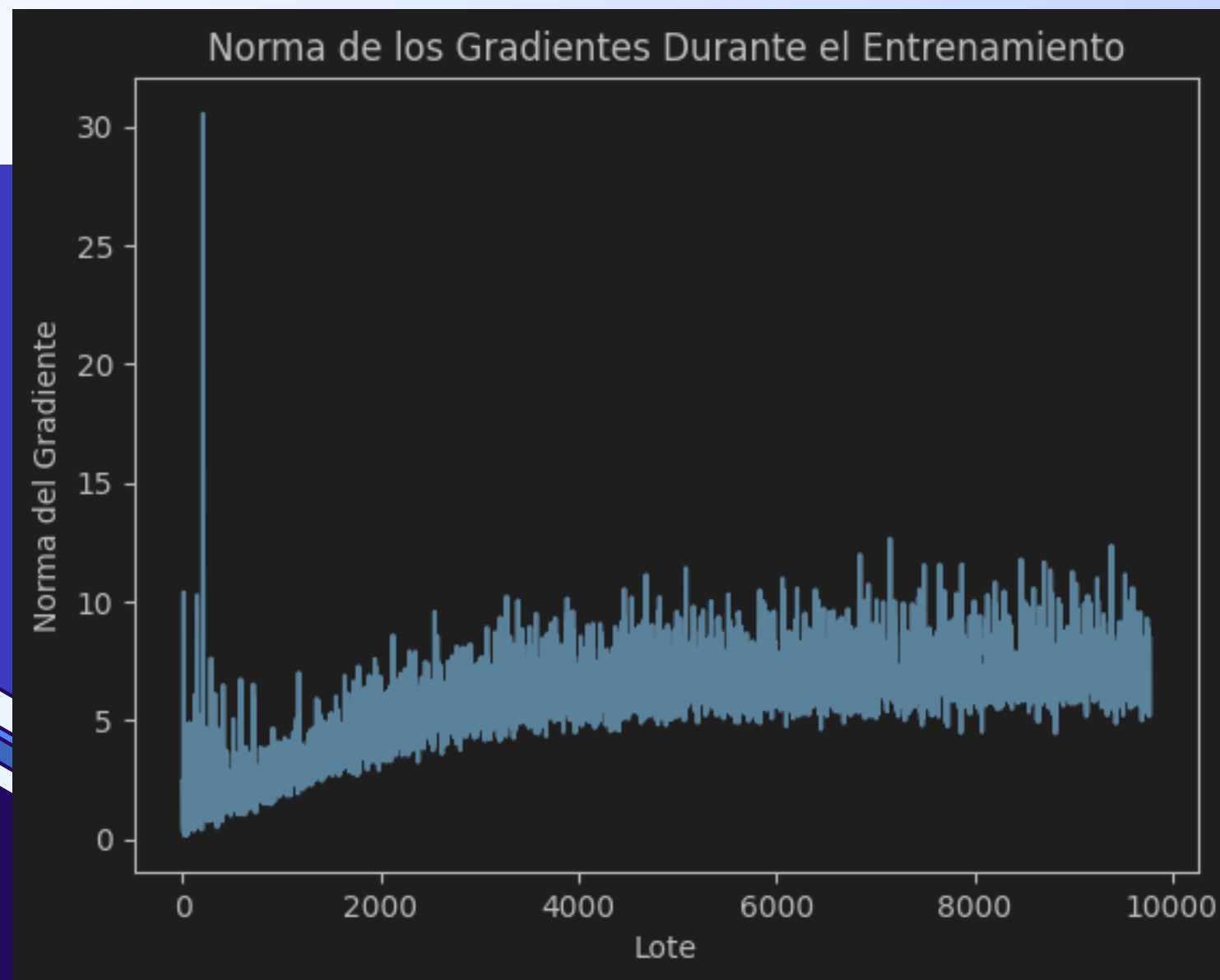
# DROPOUT Y L2



Pérdida Promedio en Validación: 0.2852  
Perplejidad: 1.3300  
Exactitud (Accuracy): 94.11%



# WORD VECTOR QUANTIZATION



Pérdida Promedio en Validación: 0.6330  
Perplejidad: 1.8833  
Exactitud (Accuracy): 82.31%

