ECE284 FA25 Progress Report

1. Group Name:

Elephant

2. Group Member's Names (separated by commas):

Amaan Mohammed, Matteo Persiani, Sujen Kancherla, Rishi Pothukuchi, Daniel Sanei

3. Make a github repo and add all your team members.
4. Add the teaching staff (Make sure we have access to your repo if it is not public)
   a. shantanu-exe
   b. maria-s8
   c. supermingu
5. Add the github repo link here:

https://github.com/RishiPothukuchi/ECE284-Final-Project

6. Please commit/push your code **by the end of your team's poster presentation day**.
   a. This is not what will be used to grade your final report. This is just to make sure you completed what you mentioned in the poster.
7. Your github repo should have the following folders. Avoid adding vcd to github. Add it to your gitignore. If you can add a readme doc to the github it would be nice (though not necessary).
   a. Part-1
      i. Add all the files here
   b. Part-2
      i. Add all the files here
   c. Part-3
      i. Add all the files here
   d. Poster
      i. Add PDF of your poster here
   e. Alpha
      i. Alpha 1
      ii. Alpha 2
      iii. Alpha 3
      iv. More folders if you want

8. Fill the table below (Update the table as needed):

Item	Current Status (Edit as what describes your status best)	Note:
		Complete In Progress Incomplete
Part1	In Progress	Train model (4-bit) Hardware design Make testbench + verification FPGA synth
Part2	In Progress	Train model (2-bit) Hardware design Edit testbench to test all changes
Part3	Incomplete	Hardware design Edit testbench to test all changes
Alpha 1 (Leaky ReLU)	Complete	Leaky ReLU instead of ReLU to preserve negative gradients and prevent dead neurons
Alpha 2 (Cosine Annealing LR Scheduler)	Complete	Smooth change in learning rate to improve convergence stability and accuracy
Alpha 3 (Activation Aware Pruning)	Complete	Pruned based on weight magnitude and average activation magnitudes
Alpha 4 (Add Layers Before Bottleneck)	Complete	Gradual layer change before and after the 8-channel bottleneck (512->128->32->8-> 32->128->512)