**Code Flow and Layer Sequence:**

The main code is in **cnntrain.cpp,** main function initially read all the coefficients (weight, biases, etc.) of the trained network of all layers in respective structure using **read\_conv\*\_layer** function**.**

**\* read\_conv\_layer** for convolution layer**, read\_pool\_layer** for pooling layer and rest for others**.**

**Forward layer Sequence:**

**1). Convolution layer (file:**cnntrain.cpp**; line:**69**; function:**CNN\_FP**)**

**2). Relu layer**   **(file:**cnntrain.cpp**; line:**73**; function:** relu**)**

**3). Pooling layer (file:**cnntrain.cpp**; line:**77**; function:** max\_pooler**)**

**4). Normalization layer (file:**cnntrain.cpp**; line:**82**; function:** norm**)**

**5). Convolution layer (file:**cnntrain.cpp**; line:**86**; function:**CNN\_FP**)**

**6). Relu layer**   **(file:**cnntrain.cpp**; line:**90**; function:** relu**)**

**7). Pooling layer (file:**cnntrain.cpp**; line:**94**; function:** max\_pooler**)**

**8). Normalization layer (file:**cnntrain.cpp**; line:**98**; function:** norm**)**

**9). Convolution layer (file:**cnntrain.cpp**; line:**101**; function:**CNN\_FP**)**

**10). Relu layer**   **(file:**cnntrain.cpp**; line:**104**; function:** relu**)**

**11). Convolution layer (file:**cnntrain.cpp**; line:**107**; function:**CNN\_FP**)**

**12). Relu layer**  **(file:**cnntrain.cpp**; line:**110**; function:** relu**)**

**13). Convolution layer (file:**cnntrain.cpp**; line:**113**; function:**CNN\_FP**)**

**14). Relu layer**  **(file:**cnntrain.cpp**; line:**116**; function:** relu**)**

**15). Pooling layer (file:**cnntrain.cpp**; line:**119**; function:** max\_pooler**)**

**16). Convolution layer (file:**cnntrain.cpp**; line:**122**; function:**CNN\_FP**)**

**17). Relu layer**  **(file:**cnntrain.cpp**; line:**125; **function:** relu**)**

**18). Convolution layer (file:**cnntrain.cpp**; line:**128**; function:**CNN\_FP**)**

**19). Relu layer**  **(file:**cnntrain.cpp**; line:**131; **function:** relu**)**

**20). Convolution layer (file:**cnntrain.cpp**; line:**134**; function:**CNN\_FP**)**

**21). Softmax (file:**cnntrain.cpp**; line:**141**; function:**CNN\_FP**)**

Upto this point we call for forward propagation. In the code softmax is commented because we started backward propagation from this point.

**Sequence for backward propagation:** Here we start calling each layer in opposite direction.

**21). Softmaxloss (file:**cnntrain.cpp**; line:**150**; function: softmaxloss\_bp)**

**20). convolution layer (bp) (file:**cnntrain.cpp**; line:**153**; function:**CNN\_BP**)**

**19). relu layer (bp) (file:**cnntrain.cpp**; line:**159**; function:**relu**\_bp)**

**18). convolution layer (bp) (file:**cnntrain.cpp**; line:**162**; function:**CNN\_BP**)**

**17). relu layer (bp) (file:**cnntrain.cpp**; line:**166**; function:**relu**\_bp)**

**16). convolution layer (bp) (file:**cnntrain.cpp**; line:**169**; function:**CNN\_BP**)**

**15). pooling layer (bp) (file:**cnntrain.cpp**; line:**172**; function:**max\_pooler\_bp**)**

**14). relu layer (bp) (file:**cnntrain.cpp**; line:**175**; function:**relu**\_bp)**

**13). convolution layer (bp) (file:**cnntrain.cpp**; line:**178**; function:**CNN\_BP**)**

**12). relu layer (bp) (file:**cnntrain.cpp**; line:** 181**; function:**relu**\_bp)**

**11). convolution layer (bp) (file:**cnntrain.cpp**; line:**185**; function:**CNN\_BP**)**

**10). relu layer (bp) (file:**cnntrain.cpp**; line:**188**; function:**relu**\_bp)**

**9). convolution layer (bp) (file:**cnntrain.cpp**; line:**191**; function:**CNN\_BP**)**

**8). Normalization layer (bp) (file:**cnntrain.cpp**; line:**194**; function:**norm\_bp**)**

**7). pooling layer (bp) (file:**cnntrain.cpp**; line:**198**; function:**max\_pooler\_bp**)**

**6). relu layer (bp) (file:**cnntrain.cpp**; line:**202**; function:** relu\_bp**)**

**5). convolution layer (bp) (file:**cnntrain.cpp**; line:**206**; function:**CNN\_BP**)**

**4). Normalization layer (bp) (file:**cnntrain.cpp**; line:**210**; function:**norm\_bp**)**

**3). pooling layer (bp) (file:**cnntrain.cpp**; line:**214**; function:**max\_pooler\_bp**)**

**2). relu layer (bp) (file:**cnntrain.cpp**; line:**218**; function:** relu\_bp**)**

**1). convolution layer (bp) (file:**cnntrain.cpp**; line:**222**; function:**CNN\_BP**)**