see i am a layman entering into the ML field. I have limited time to build the model to make CNN..so i gotta make it fast..but also learn on the way iykwim. i know like a vague understandign of CNN..but it would be nice if you could walk me through it with a proper plan..lets say i have 3 or 4 days to make the CNN

For your **Face Mask Detection using CNN**, here’s how you can break down your goals:

**1. Basic Working Model (Minimum Viable Project)**

✅ Train a simple CNN to classify images as **masked or unmasked**  
✅ Use an existing dataset (like Kaggle’s face mask dataset)  
✅ Get at least **80% accuracy** on validation data  
✅ Test it on some new images to check performance

**2. Functional Implementation**

✅ Convert it into a **real-time mask detector** using OpenCV  
✅ Load the trained model and apply it to **live webcam/video feed**  
✅ Draw bounding boxes around faces and label them as “Mask” or “No Mask”

**3. Polishing for Submission**

✅ Optimize model performance (fine-tune hyperparameters, data augmentation)  
✅ Improve real-time performance (reduce lag, optimize inference time)  
✅ Document everything: dataset description, model structure, results

**4. Bonus (If You Have Time)**

🔥 Add a **third category: "Incorrectly Worn Mask"**  
🔥 Deploy it as a simple **web app or mobile app**  
🔥 Train on a custom dataset (capturing your own masked/unmasked images)

Would you prefer a **simpler** version just to submit, or do you want to push for something more polished?

Acuired dataset from kaggle : [Face Mask Detection Dataset](https://www.kaggle.com/datasets/omkargurav/face-mask-dataset)

Uploaded the dataset as zip…unzipped

Checked img.shape for some images, noticed not the same size

Checked pixel range 0 to 249

Resized the image to 128 by 128