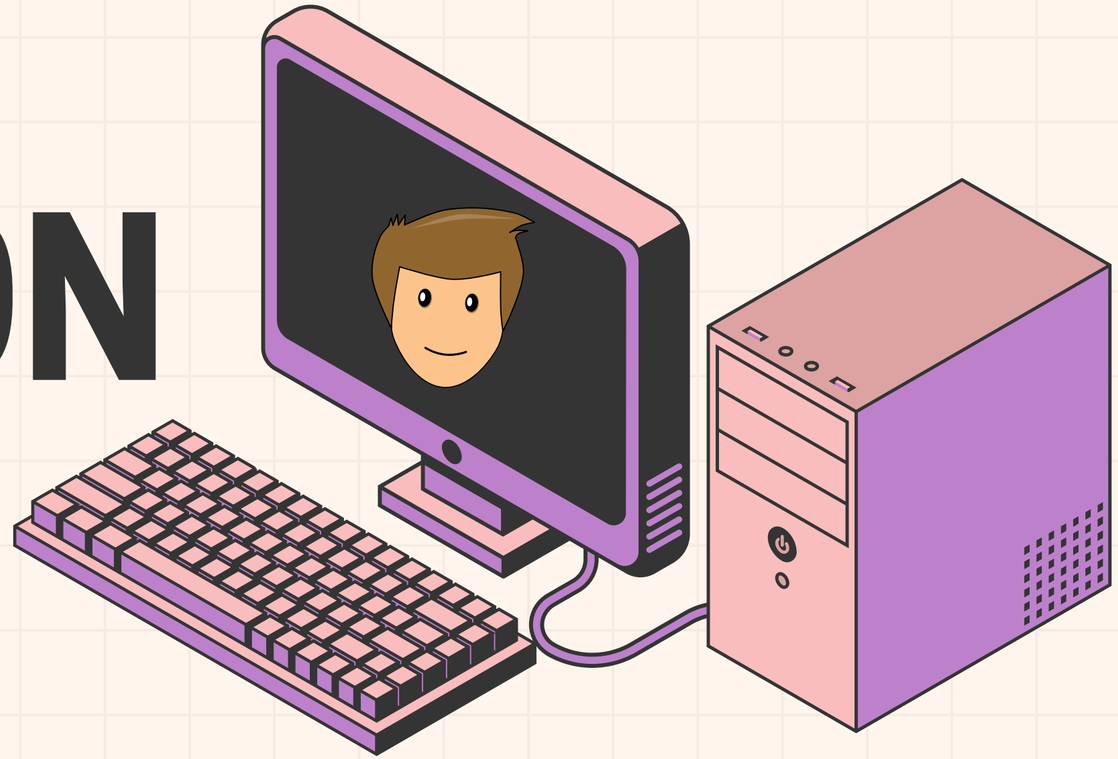
FACE VERIFICATION

USING SIAMESE NEURAL NETWORK

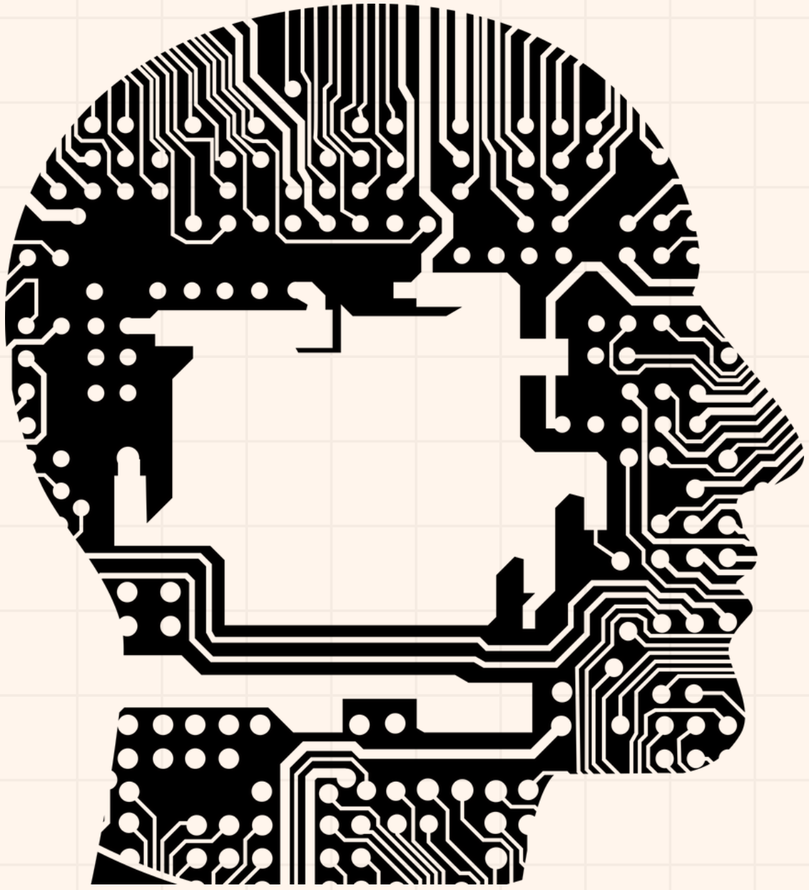


INTRODUCTION

Face verification is the task of determining whether two face images belong to the same person.

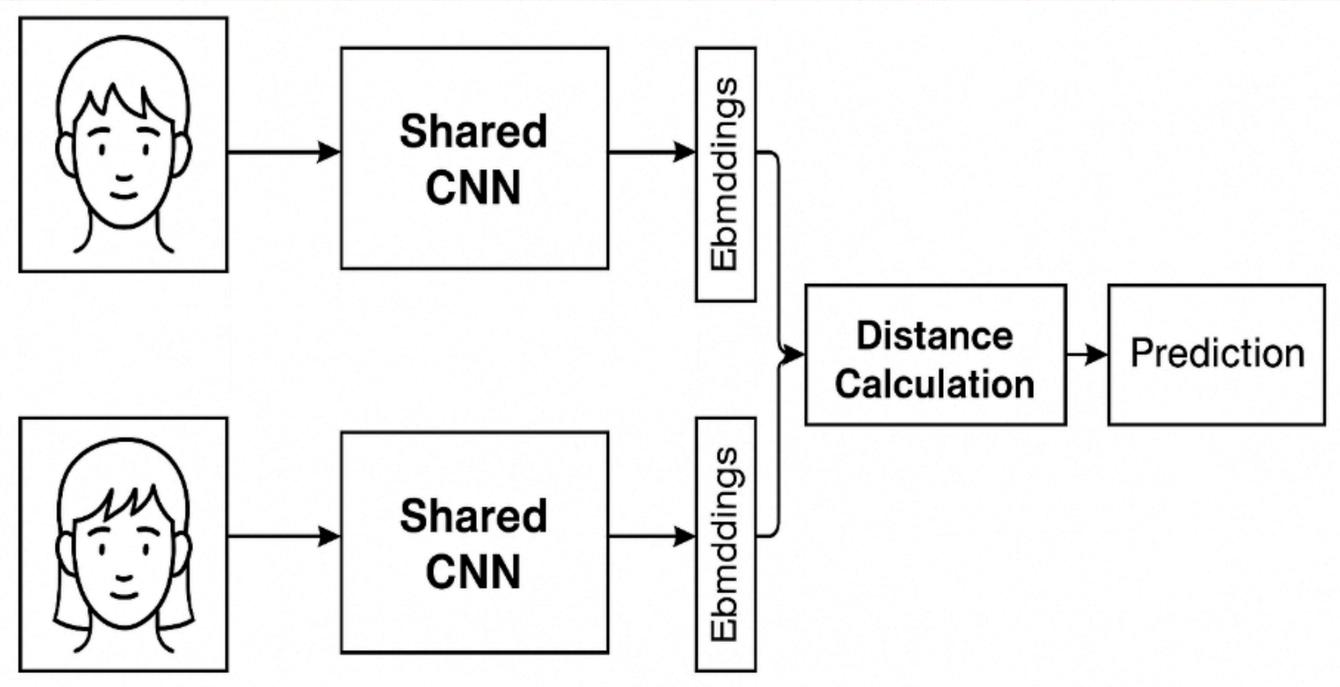
Applications- Mobile phone unlocks
Access Control in Secure Facilities
Online Examination Proctoring

We have implemented a Siamese Neural Network architecture, which is effective in learning similarity functions. Our method is inspired by the research paper "Siamese Neural Networks for One-shot Image Recognition" by the CMU School of Computer Science.

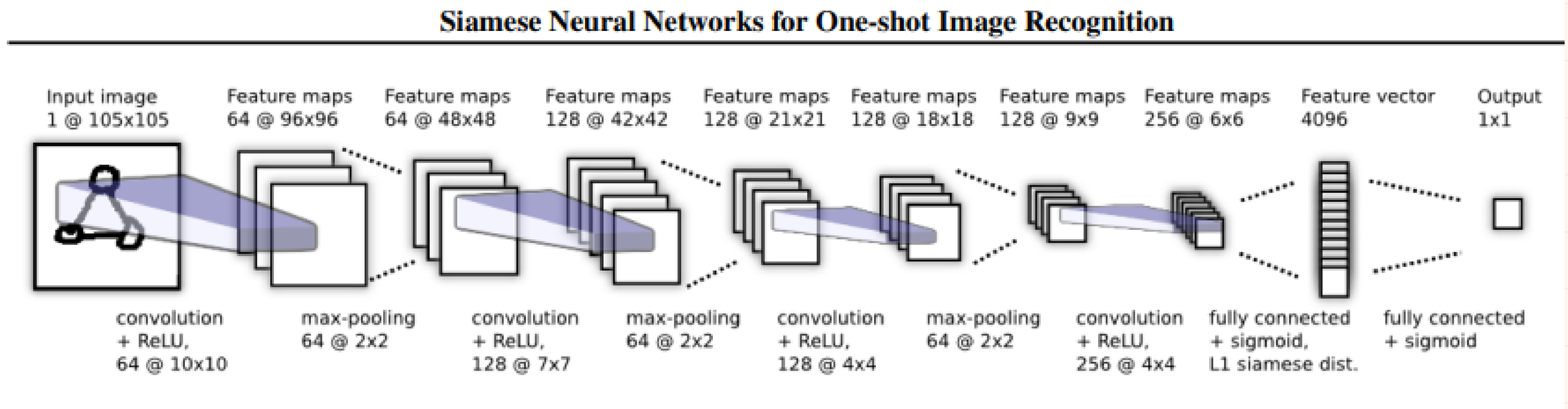


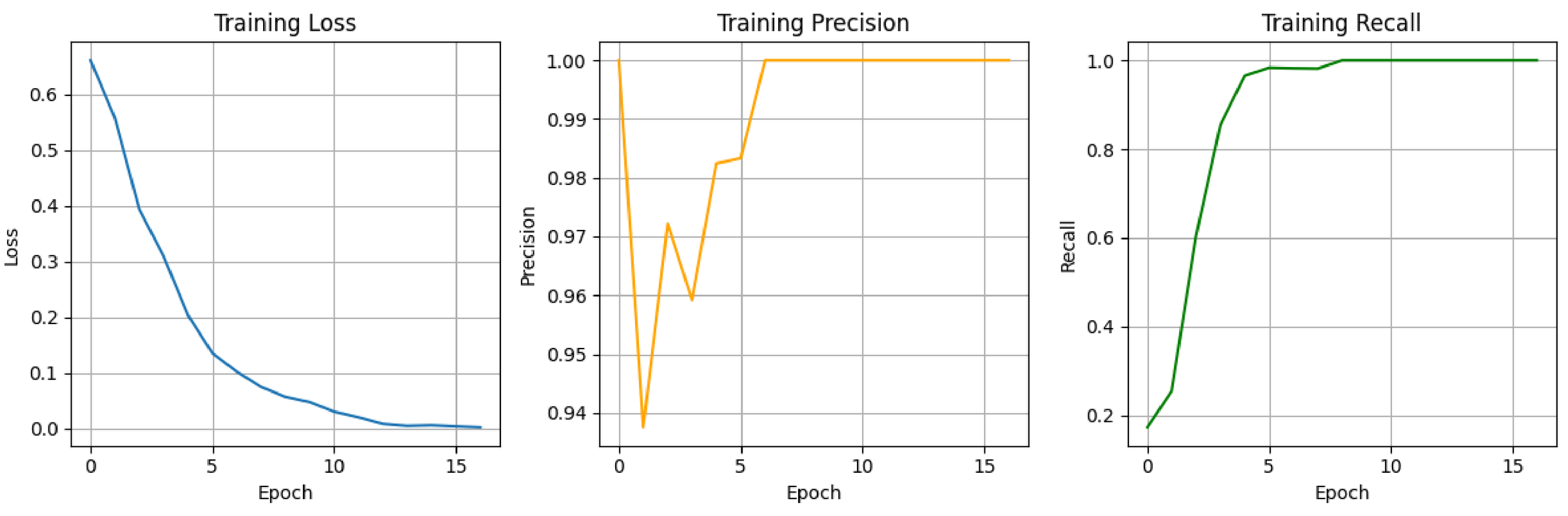
PROJECT WORKFLOW

- IMPORT LIBRARIES
- DATA COLLECTION & PREPROCESSING
- PAIR CREATION (ANCHOR, POSITIVE, NEGATIVE) & PREPROCESSING
- SIAMESE MODEL ARCHITECTURE
- MODEL TRAINING
- VERIFICATION ON REAL-TIME INPUT



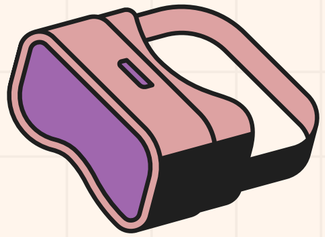
Total params: 38,964,545




Training Loss
Loss
Epoch
Training Precision
Precision
Epoch
Training Recall
Recall
Epoch

PROBLEMS FACED

- To get and collect the right dataset
- Webcam Access in Colab and VS Code
- Model Training Challenges
- GPU compatibility
- Setting the right threshold



THANK YOU