# Aadhaar card Data Minimization

## (Using Steganography)

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### Abstract

As we all know Indian government launched Aadhaar card program in 2009 and we all have one card which is called "Aadhaar".

Aadhar card contain following details:

1. Photo of user. (Some Kb / Mb)
2. Name of user.
3. Gender information.
4. Address.
5. Fingerprints.
6. Aadhaar Number.

In order to store all these details, we need at most 1MB or 2MB space per user.

I have idea to store/ hide all the text data, Aadhaar number and finger prints information into the photo of person.

**How can we do that (Steps):**

1. Take Photo of user. (in KB)
2. Write / Hide all other information into this image using steganography.
3. Output is only one image with same size. (in KB)
4. If we need to see user detail, we can extract information from image.



Store / Hide All information into the image

**Example:**

Let's assume we have one user data and it's contains:

1. 800x600 image with 8bit depth have at most 600 KB size.
2. And all other data (Name, Address, Father name, birthdate(DOB), Finger print data, etc…)
   - Let's assume this all have 424 KB (size of all Another data)

Now,

Total data of this user = Image + Another data = 600 + 424 = 1024 KB = 1MB.

One user has 1MB data.

But using this model, we can store this 424 KB taxable data within 600 KB image.

So, we require only 600KB to store one user information (i.e. image size).

Now, try to think this model with 125 crore users,

Before:

To store 125 crore user information $125 \times 10^7$ MB required (i.e. 1250 TB).

After Appling this model:

We require only 125crore x 600KB, (i.e. 750TB).

**Benefits:**

As per seen above example we can say we save 500 TB data. (500 TB = High cost)

Now connect this model with machine learning, we can detect every person on this earth using high resolution camera.

Here, the details of the users are store in their image. whenever we catch person in photo we can find their name and full details using steganography. (detect person using machine learning).

**Future Scope:**

Using this model, we can develop secure login system which is operated by using face (e.g.: Paytm login, all login activity).

No need to type/write any single character for give your identification.

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