Personal Image Detection

The Data

Target:

- Person A (Any Key Person)

Input Data

- Images containing Person A
- Images not containing Person A

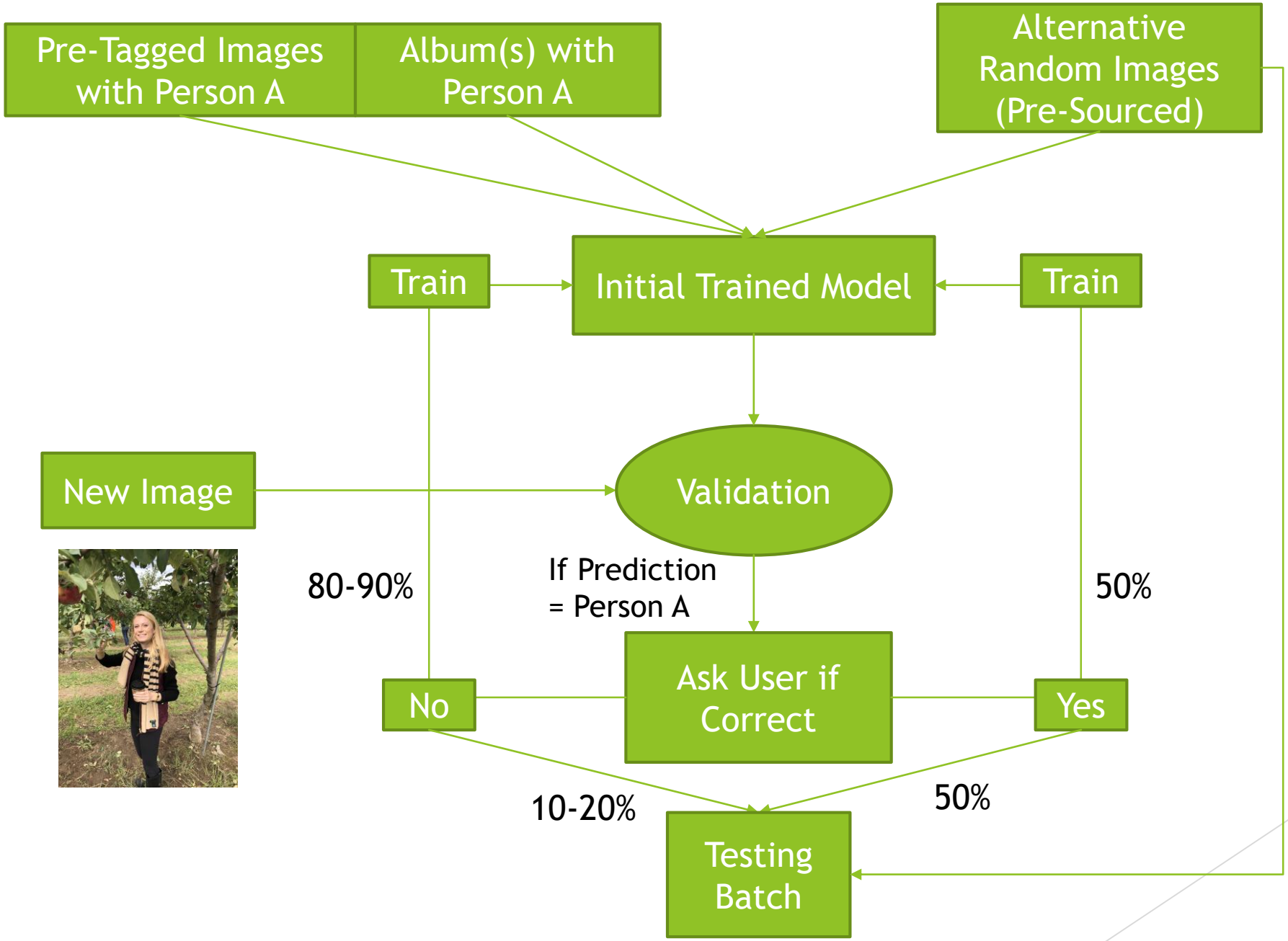
Problem:
Small Target Space

- Users only have ~10-1000 images of key person

- Not large for Deep Learning

Solution: Upsampling

- Add blurry & unsharpened versions of images
- Add rotated images
- Reason: Better Adversity Performance


Pre-Tagged Images with Person A
Album(s) with Person A
Alternative Random Images (Pre-Sourced)
Train
Initial Trained Model
Train
New Image
Validation
80-90%
If Prediction = Person A
50%
No
Ask User if Correct
Yes
10-20%
50%
Testing Batch

Recommendations

- Data:
  - Sourced Images
    - **Get large dataset of (10k-100k) images not containing person A**
    - **Re-usable for persons B, C, …**
  - User Images
    - **Tagged Images**
    - **Personal Albums**

Recommendations

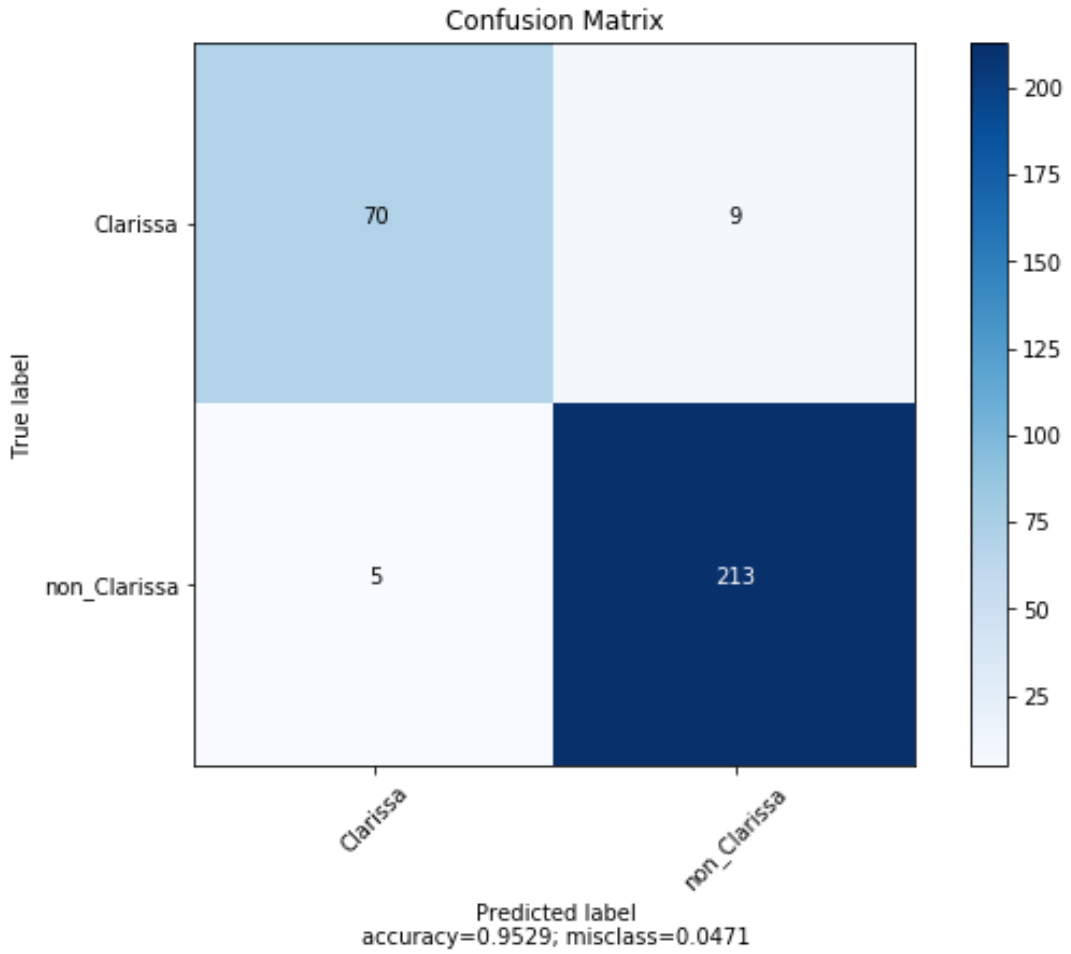
- Model:
  - **Best Test Accuracy**
  - **Update model**
    - **When Test Accuracy improves**

Recommendations

- Cloud:
  - **Host Images and Model Training on Cloud (AWS, Google Cloud)**
- Total Cost (~100 users):
  - **Images: Fixed (~$100 monthly)**
  - **Models: Variable (Training ~50 hr/mo)**
    - **Medium Performance (~$1000 monthly)**
    - **High Performance (~$5000 monthly)**

Example Model Performance

- Target: Clarissa
  - 79 Test Clarissa Images
  - 218 Test non-Clarissa Images
- Performance: >95% Accuracy



Goals

- User Experience
  - Automatic Tagging
  - Album Generation
- Product Recommendation
  - User A + User B mutually tagged
    - Recommend similar products
    - Ad success w. User A -> Show ad to User B

Next Steps

- Test on Multiple Users
- A / B Test automatic tagging and album generation
- Long term:
  - Incorporate Object Detection
  - Implement / Enhance product recommendation