

FLATIRON CONSULTING

Identifying Melanoma

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Australian Government

Department of Health



Content Synopsis

- Business Problem
- Data Understanding
- Modeling
- Recommendations
- Next Steps



The Problem

- Highest rates in World
- Most common cancer affecting 20 to 30-year-olds
- 1300 expected deaths this year

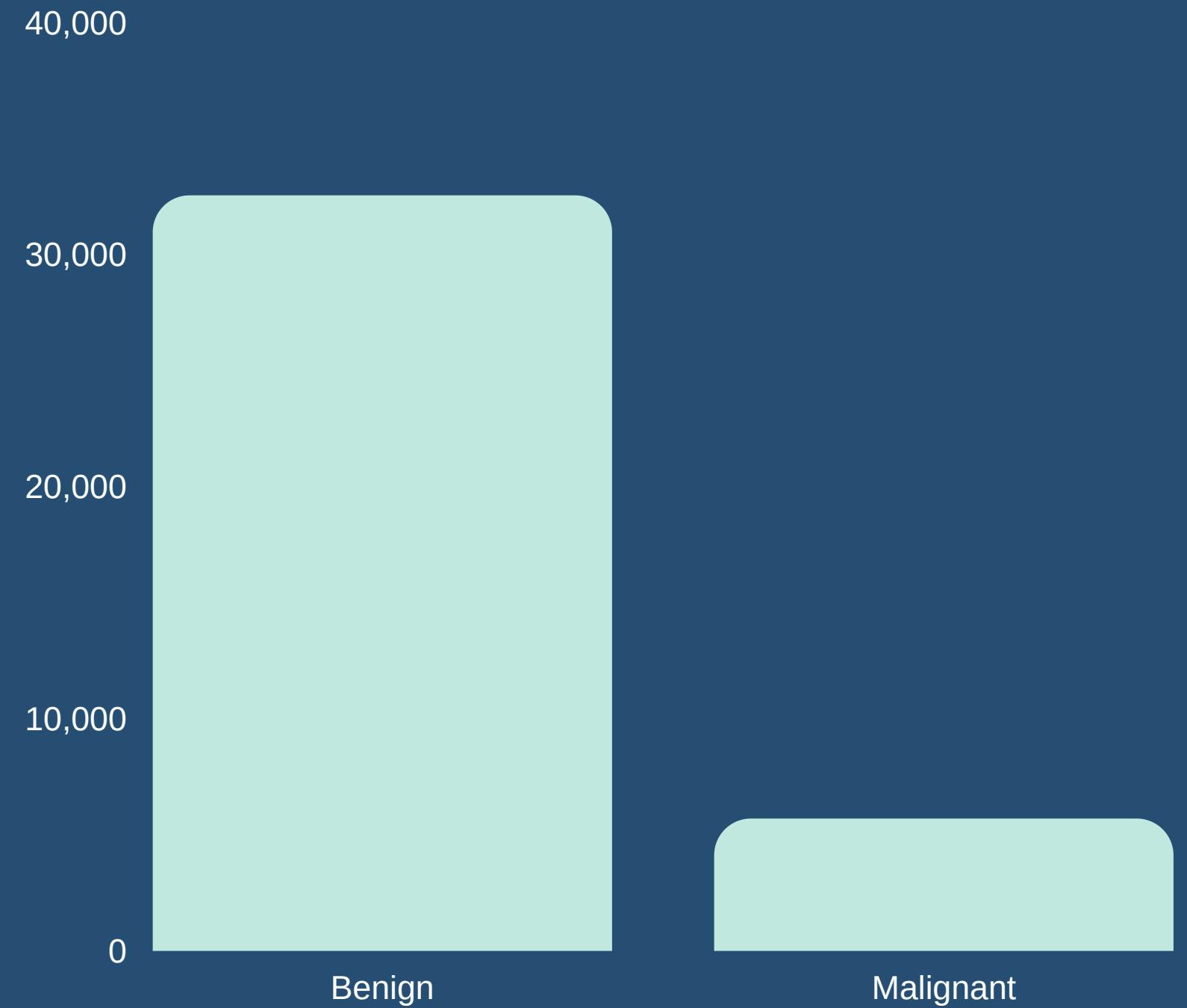
The Solution

- Image Classification
- Visit Dermatologist quicker
- Lives saved



Data Understanding

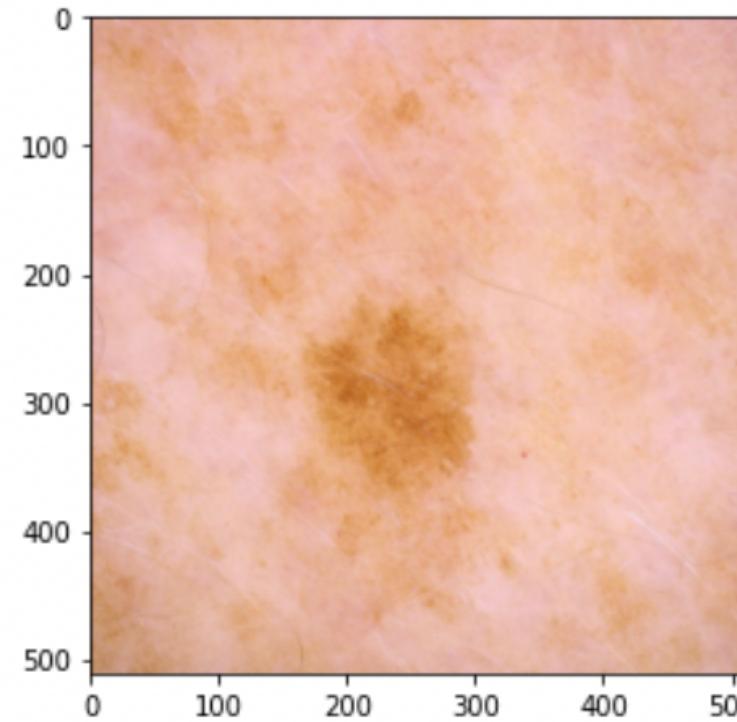
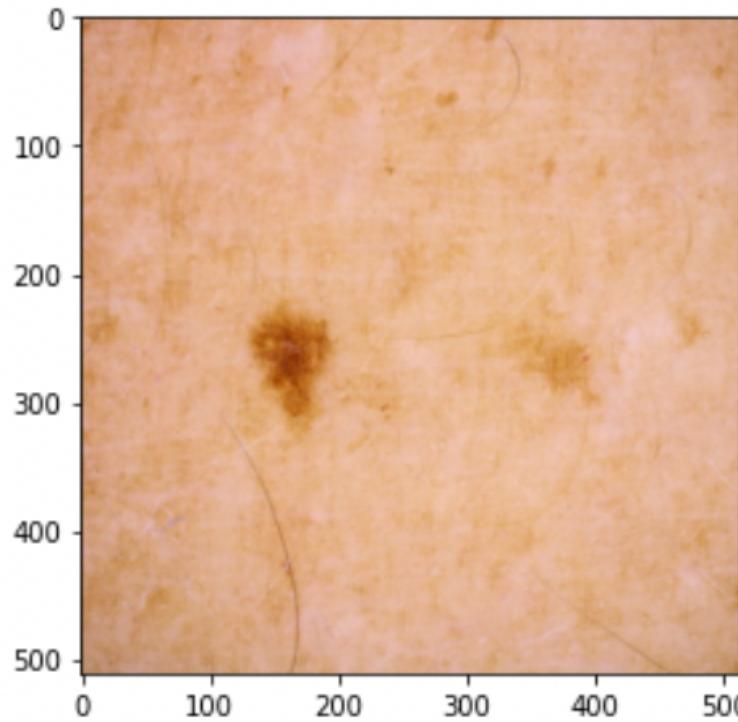
- Society for Imaging Information in Medicine (SIIM)
- International Skin Imaging Collaboration (ISIC)
- 38,228 images since 2017



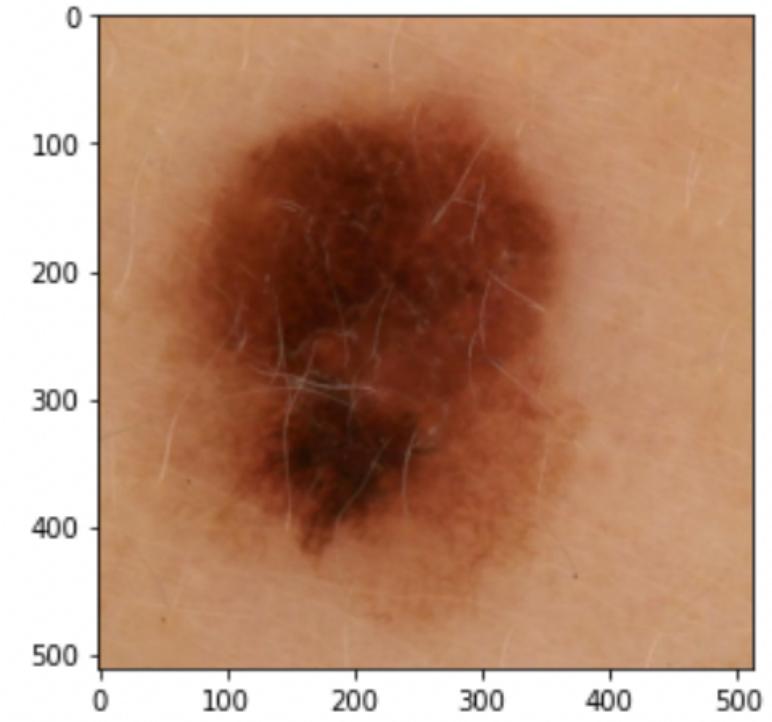
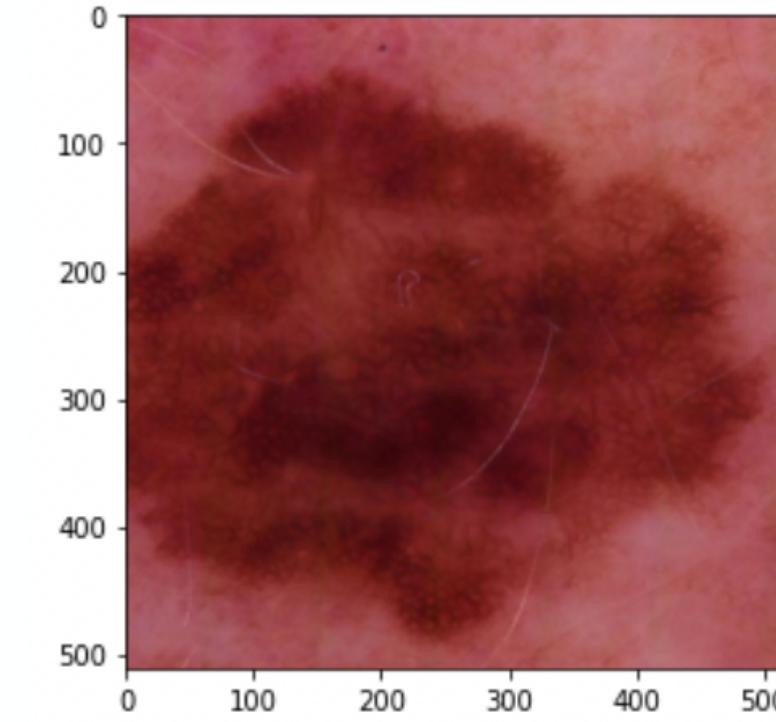
Data Understanding



Examples of Benign

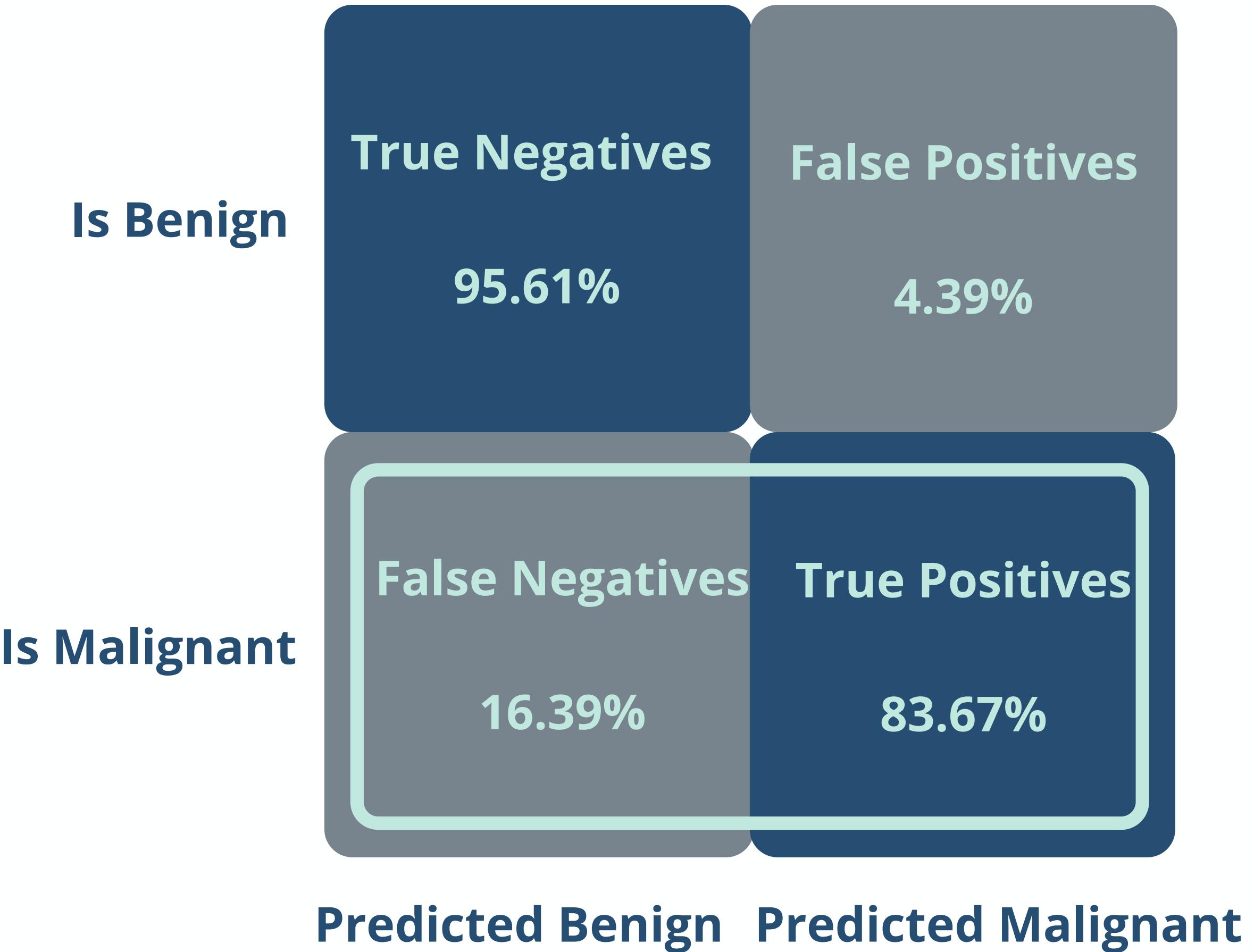


Examples of Malignant



Modeling

- VGG16
 - Convolutional Neural Network
- Accuracy: 93.8%
- Recall: 83.7%



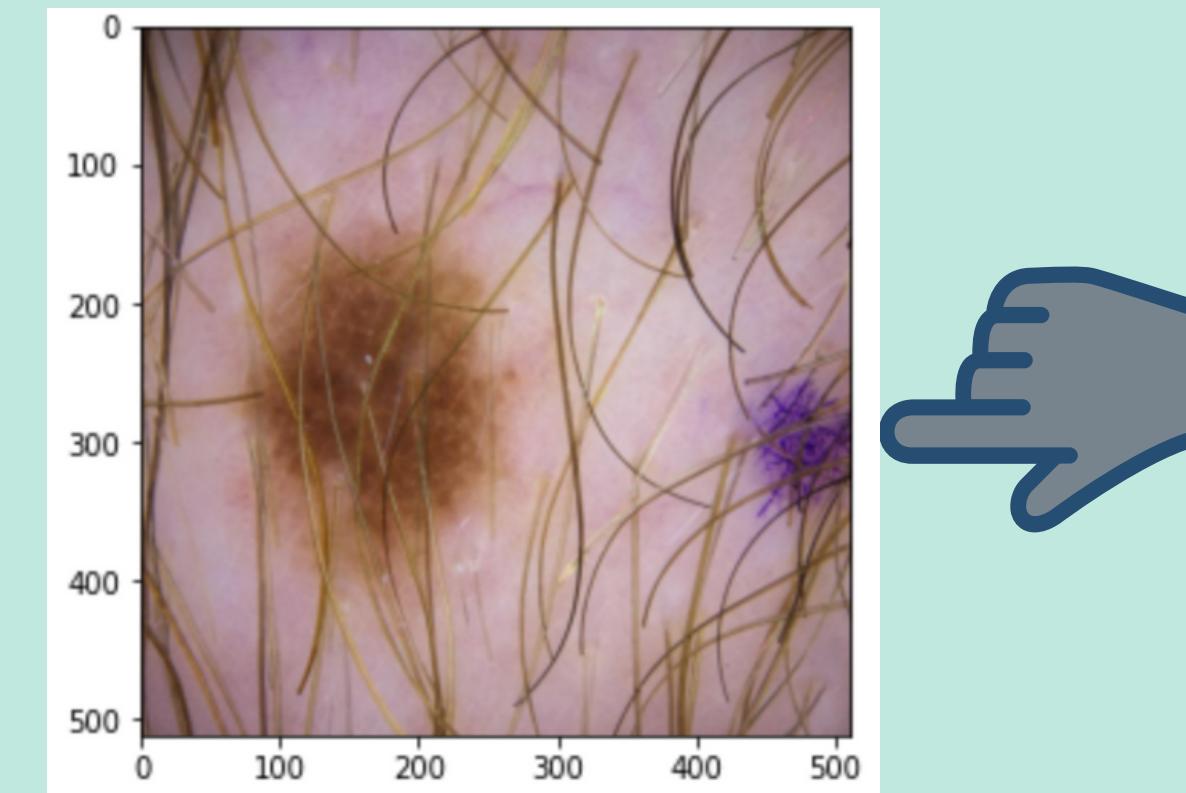
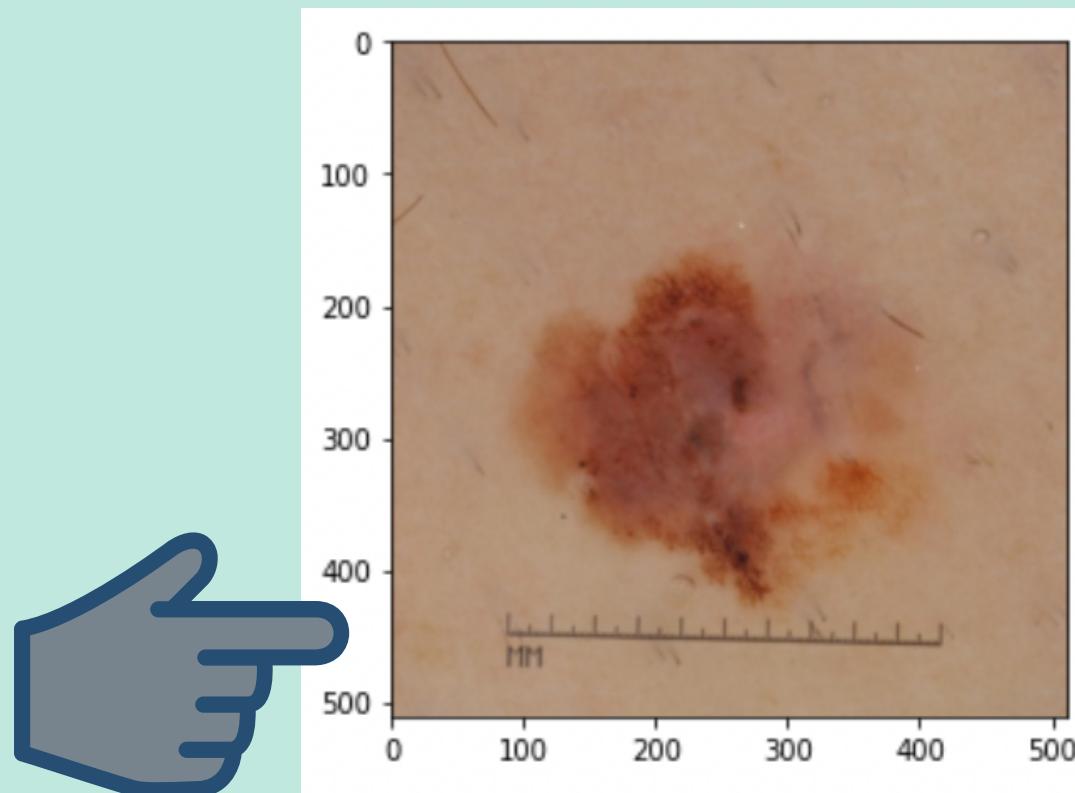
Recommendations

1. Develop an App
2. Advertise it to the Public
3. Act Fast



Next Steps

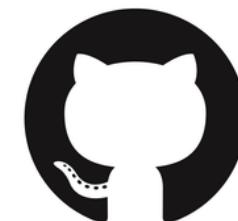
- Balance Target
- Remove Rulers, Markings, and Hair
- Darker Skin Tones



Thank You! Any Questions?



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Data Scientist



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