IMAGE DETECTION AND RECOGNITION IN JEWELRY.
ENG EC601 Project by Orif Negmatov

Boston University College of Engineering

https://github.com/Orif0007/EC601-Project

BACKGROUND

- Gemstone – piece of mineral crystal
- Gemstones can be collected in a database to parse through
- 3-D scanner (such as LiDAR) can be utilized for gemstones
  - iPhones have built-in LiDAR

OBJECTIVES

- Identify gem's name from an image
- Analyze image processing algorithms
- Allow a user to select a jewelry item or gem
- Describe the properties of the item (diamond, sapphire, etc.) to the user

NEXT STEPS

- Design a mobile application that does image processing
  - Detects the gemstone and shows the inventory of similar jewelry items
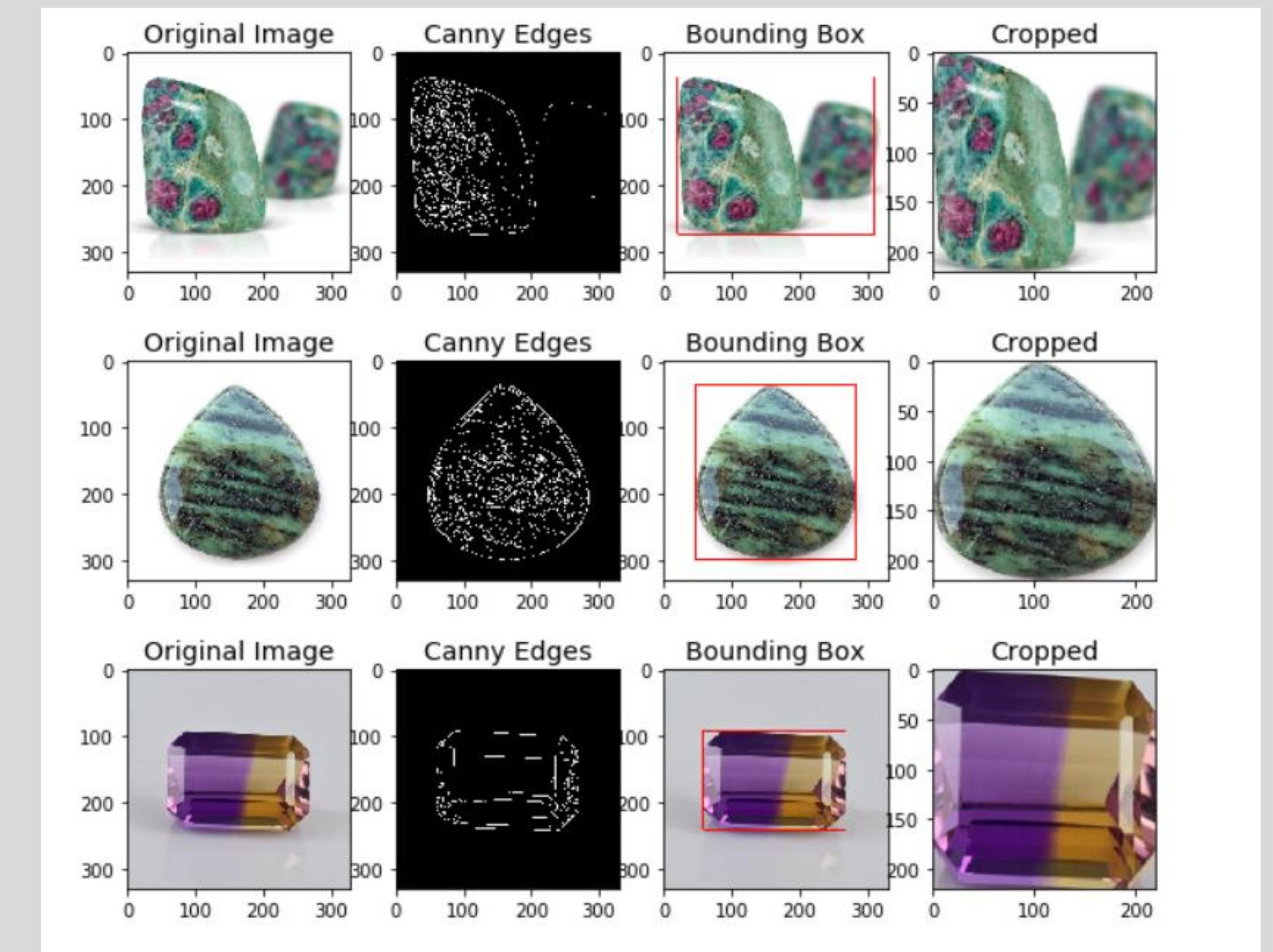 - Provides customers with options for purchase

METHODS

- Divide data into two components: training and test models
- Create a function that reads the images
- Crop edges of images using Canny algorithm
- Design a test model using Convolutional Neural Network algorithm

INPUT/TEST DATA

RESULTS

- Achieved accuracy of 65%