

Assessment 5: Visual Rank

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Course: Master of Data Science

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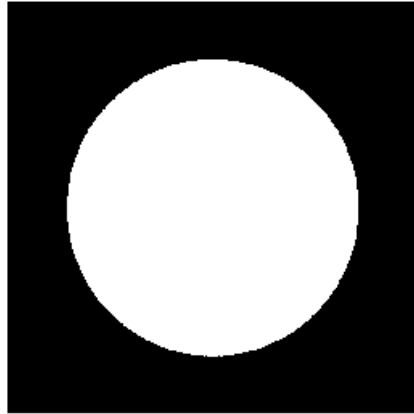
Subject: MA580q – Essential Mathematics for Data Scientists

Due Date: 19 August 2018

Task 1

- a) - f) See Matlab code
- h) Highest ranked image: device9-20.png

Highest Ranked Image - device9-20.png



Task 2

- a) See Matlab code
- b) VisualRank vector for the 20 heart images:

- 1) 0.0533427139113301,
- 2) 0.0479909572053565,
- 3) 0.0521449544317273,
- 4) 0.0489477426126017,
- 5) 0.0513904692820485,
- 6) 0.0532249746650137,
- 7) 0.0505492485963589,
- 8) 0.0472977583716867,
- 9) 0.0514912398048768,
- 10) 0.0493367587774284,
- 11) 0.0510670925417854,
- 12) 0.0487639269372759,
- 13) 0.0452888701951146,
- 14) 0.0524531067703493,
- 15) 0.0515672124054859,
- 16) 0.0456319948596996,
- 17) 0.0521500344235125,
- 18) 0.0514203560984794,
- 19) 0.0489371746018224,
- 20) 0.0470034135080401

c) Most representative heart shaped image of the given 20 images:

MOST representative heart shaped image - Heart-1.png



d) Least representative heart shaped image of the given 20 images:

LEAST representative heart shaped image - Heart-20.png



Task 3

a) See Matlab code

b) 10 Nearest images to device6-18.png:

- 1) "device6-13.png"
- 2) "device6-3.png"
- 3) "device6-6.png"
- 4) "device6-15.png"
- 5) "device6-20.png"
- 6) "device6-17.png"
- 7) "device6-12.png"
- 8) "device6-11.png"
- 9) "device6-4.png"
- 10) "device6-5.png"

c) Ranked order of the nearest 10 images to device6-18.png:

- 1) "device6-20.png"
- 2) "device6-15.png"
- 3) "device6-6.png"
- 4) "device6-3.png",
- 5) "device6-13.png"
- 6) "device6-5.png"
- 7) "device6-4.png"
- 8) "device6-12.png",
- 9) "device6-17.png"
- 10) "device6-11.png"

See figure below for actual images.

Figure 1 - Ranked nearest 10 images to 'device618.png'

