Image Processing & Computer Vision
Session Lead: Eleanor Rightley, Eleanor Rightley

Date	Time
Saturday, October 11th	1:45pm - 2:45pm; 2:55pm - 3:55pm; 4:05pm - 5:05pm
Sunday, October 12th	(?) 8:30am - 9:30am; (?) 9:40am - 10:40am; (?) 10:50am - 11:50am

Session Prerequisites:
This session is for students who have some experience with Python programming or a similar language.
- Three (3) or four (4) hours of image processing class

Session Description:
This session will cover the fundamental concepts of image processing using Python; and if timing allows, applying image processing to machine learning applications, such as introductory concepts of computer vision. A few of the specific concepts that could be covered are:
- RGB and grayscale images
- Pixels and pixel mapping/plotting
- Color planes in RGB images
- Color systems in image processing
- Bit-planes and bit-shifting in grayscale images
- Filters and filtering of images
- Convolution integrals
- (time-permitting) Object detection
- (time-permitting) Image classification

Throughout this session, students will have the opportunity to experience and begin to build vital skills used in image processing. These skills will be related to real-world careers and opportunities that will allow students to understand how their newly developed skills can assist them in their future endeavors. Additionally, students will be provided with resources and references that will help them to engage in these concepts further, if they so choose.