

ECE Capstone program
Spring 2019
Project Abstract & Info

Please provide the following information to be shared with on capstone information exchange platform:

1. Project number: 28

2. Project title (as will appear on the poster): Educated Outfit Scanner

3. Team members:

1. Zheng, Michael (zheng.m97@gmail.com)
2. Thiruvalluvan, Adithya
3. Patel, Dhruvik
4. Ogawa, Shota

4. Adviser(s) name(s):

1. Ortiz, Jorge

5. Up to 5 keywords that will help to classify the project scope:

Computer Vision, Classifier, APIs, Convolutional Neural Network, Keras

6. Project abstract (up to 250 words) to be shared with judges:

Many hours of the week are wasted on uneducated outfit decisions. The daily decision of deciding what to wear is one such process and automating it will improve quality of life.

The goal of this project is to develop a full pipeline to take input through a camera and website to output the verification of the user's outfits. The camera will be used to capture the user's current outfits, and the website will be used to find the user's preferences based on color scheme in fashion trends. The system will then tell the user if their choice of outfit matches the color scheme they like and if it is appropriate for the current weather outside. This pipeline will consist of two neural networks to emulate our brain's process of identifying clothing and the color of the associated clothing. The pipelines will both consist of convolutional neural networks (CNN), a popular image classification model. Once the models are trained, the output of the first neural network, the identified clothing, will be passed to another system which will determine whether the outfit is suitable based on the data collected from the weather APIs. The second neural network will check to see what the user chooses as their color scheme preference and see if their outfits matches. The project will be hosted as a web application so the verifications can be seamlessly displayed to the user.