**National University of Computing and Emerging Sciences-FAST**

**Project Proposal**

**Artificial Intelligence**

**Group Members:**

**19K-1411 Muhammad Sajjad Aziz**

**19K-0263 Arman**

**19K-0337 Shahzaib**

# Project Title

Image Classification and Similarity using Convolutional Neural Networks and K-means.

# Introduction

Having a picture of product and want to get the very same product, but searching for it can be a real problem. Searching keywords can make our process slightly less problematic but looking each and every product to find the very same or similar product can cause you go through many pages. For this purpose, we proposed image searching, you can upload the picture of the product you want and our model will provide you the very same product if available and some similar products.

# Methodology

To accomplish our proposed solution, we will be implementing deep learning’s convolutional neural networks(CNN) for image classification and to find the similar images/products we will implement K-means and to transform the data we will use principal component analysis(PCA).

# Expected Project Results

When user upload an image of product, our CNN model will classify the image/product into a category in which it lies and then the similar products will be searched into that identified category by our K-means. In result, user will be having some products listing on screen from where he can select to buy.