FIRE: THE FIRST-YEAR
INNOVATION & RESEARCH
EXPERIENCE
CAPITAL ONE MACHINE LEARNING

Image Colorization
with Deep Learning
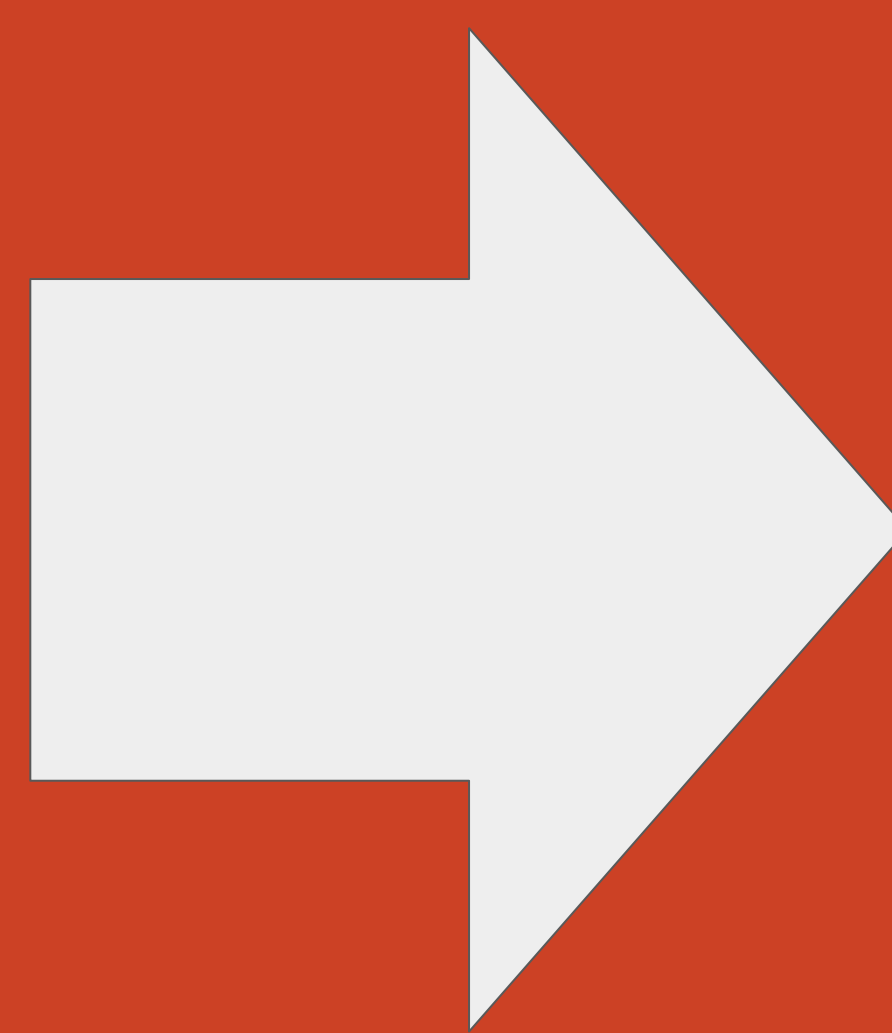Matthew Snyder and Varun Ayyappan
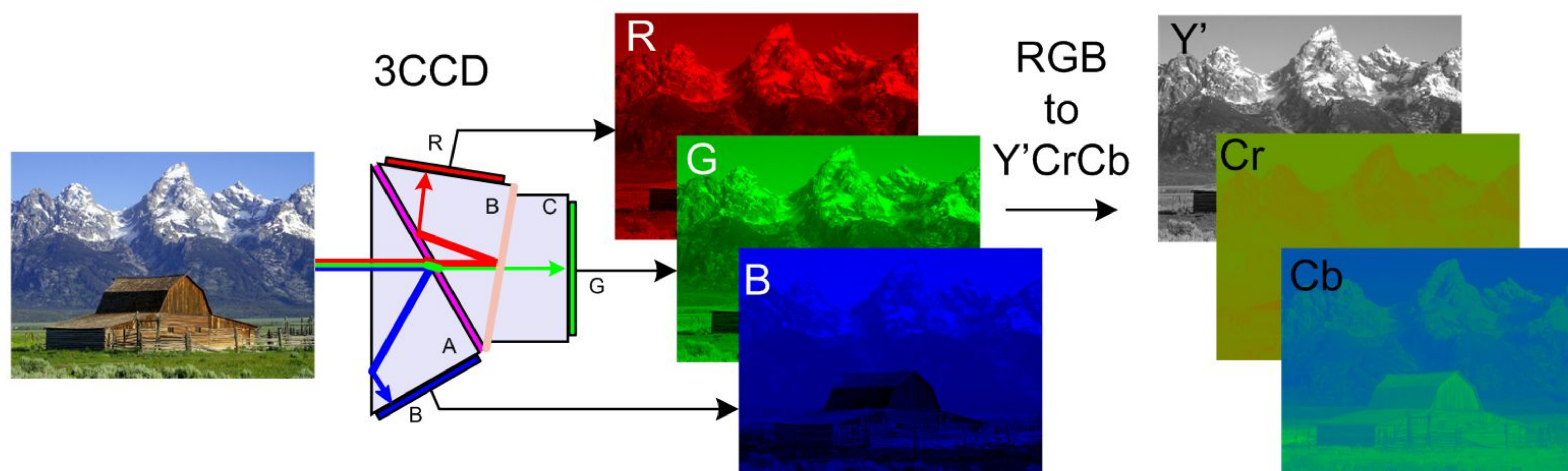
The Challenge

Convert a grayscale image into a color image
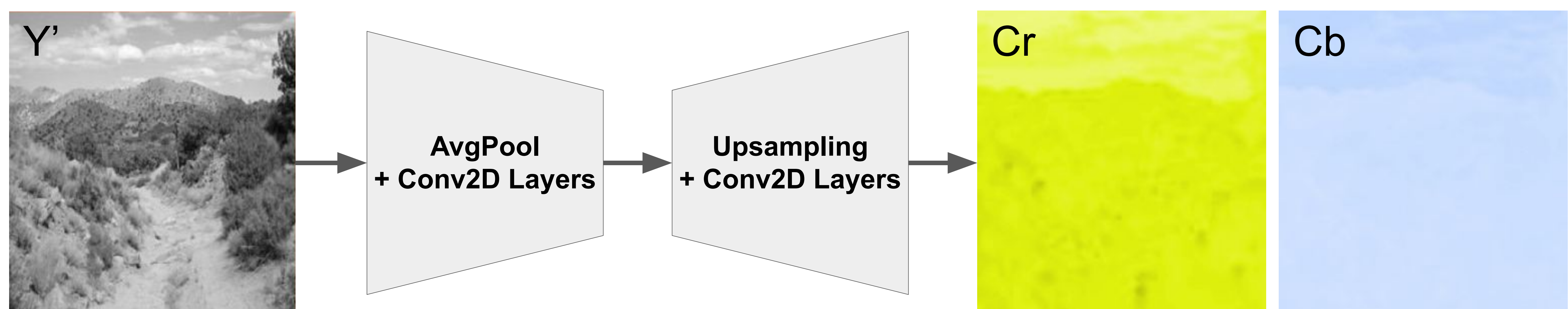
Input

Model Output

Utilizing Y'CbCr Colorspace

We convert each RGB image into Y'CbCr Colorspace.

Model Architecture

Our model utilizes the Y'CbCr colorspace in order to generate the output image. We do this because in Y'CbCr, our model only needs to predict the Cb and Cr channels. The Y channel represents luma, aka greyscale, which can be combined with the predicted Cb and Cr channels to produce a full RGB color image.