Problem Identification

In the modern digital world images are everywhere and play a central role in our personal communications. Sharing experiences and ideas with all; from friends and family to customers and followers. Within this communication, one of the things we photograph most is food. The hashtags #food, #foodporn, #instafood, #yummy and #foodie are 5 of the top 100 hashtags on Instagram and, combined, have been used over 1 billion times[1]. In spite of all of this sharing and the rise of the food blog, we also see cookbooks continue to be a medium in which we explore food[2]. Undeniably, food is a necessary part of our everyday lives, but something that also ties us culturally and emotionally.

As such, we have a long history of photographing our food with the first example attributed to scientist Joseph Nicéphore Niépce in 1832[3]. In the 70s the term food porn was used as "unhealthy for human consumption", but was later reframed to comment on the aesthetically appealing qualities of the food[4]. On the topic of pornography Justice Potter Stewart said "I know it when I see it", but whether you're sharing your newest kitchen creation with your followers, or are a professional chef enticing bookstore browsers to pick up your newest cookbook (yes, we're absolutely judging this book by its cover), we ask: What is it that makes our photos worthy of being #foodporn?

Problem Statement

Using images scraped from the FoodPorn (FP) and ShittyFoodPorn (SFP) Reddit pages, I'll use deep learning, specifically a convolutional neural network (CNN), to classify these images.

Context

Food and food photography is everywhere. Identifying appealing food images is valuable across many verticals and professions including photography, marketing, influencers or food writers/bloggers.

Criteria for success

Deep learning is used to classify FP and SFP images and features are extracted.

Scope of solution space

The data set will be limited to images found on Reddit. Other sources such as Instagram, or food websites will not be evaluated.

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[1] https://top-hashtags.com/instagram/

[2] https://www.nbcnews.com/business/consumer/recipe-success-cookbook-sales-survive-shift-digital-media-n900621

[3] https://firstwefeast.com/eat/2013/06/the-most-iconic-food-photographs-of-all-time/72330

[4] https://en.wikipedia.org/wiki/Food_porn

Constraints
I may be limited but the volume of images available, but I'll attempt to use transfer learning from pre trained food classification models to circumnavigate this.

Data sources
Data and images scraped from FP and SFP Reddit pages.

Deliverables
GitHub repository containing code, project report and slide deck. Model is deployed to an external web app.