

Two summers ago, I became enchanted with the idea of machine learning. I fell in love with the ideas of using gradual adjustment and trial-and-error to train computers to make correct judgements. I explored the cutting edge of machine learning and read ravenously.

The concepts were confusing and difficult to understand, but what I could understand made me want to know more. I continued to read about papers and projects that used machine learning. As with most things I learn, I quickly wanted to work on my own project. I started thinking about problems I'd like to solve that could use machine learning. Unfortunately, the moment I had an idea, I was on a plane to Los Angeles to visit my family. For that week, I socialised with my family during the day, but every moment I had free time, I was reading about machine learning. I read about new research, and I read about tried-and-true methods. Mostly, I searched for what tools I thought would best accomplish my task. That time, when I was away from my computer and couldn't experiment but desperately wanted to explore, is the strongest my hunger for learning has gotten.

When I got home, I set right ahead on the plan I had formulated. I downloaded Keras and Theano and modified an old python script to scrape images from the social network "reddit." Reddit has a structure called "subreddits," which are communities for specific topics. My idea was to use machine learning to estimate what subreddit an image came from: a "subreddit classifier." I downloaded over 20 gigabytes of images.

A common problem in machine learning is how to label data with answers it can learn from. Subreddits solved this problem for me: gloriously, each image was already labelled. I designed a convolutional neural network and trained it overnight. Off the bat, I had effective results. But I continued to tune the structure of my network until I was able to get even 90% accuracy rates on my testing data. I found the network performed well with more consistent content, like "AnimeWallpapers", and "cats".