CS234 Mini-project: Labeling Food Photos

Posted on September 17, 2017.

Deadline: By end of day on 09/20/2017

Introduction

You have been taking photos or keeping notes about your eating habits starting on Sep 5, 2017. In this document I explain how you will convert these photos and other data into a "tidy data" table with observations as rows and variables as columns.

Before starting

1. Make sure that you have stored all your food-related photos in a folder. Remove all photos that are not about the food project.
2. Run the Python script that generates the CSV file, photoCollectionDetails.csv with file names and timestamps.
3. Download the folder foodLabeling.zip and unzip it on your machine.
4. Make a copy of this Google spreadsheet where you'll enter the labels. Store the file on your drive and add your name as part of the filetitle. **Credit:** Thanks to Annabel Rothschild for creating the Google spreadsheet with field validations! **IMPORTANT:** Don't use this file directly. Each of you will have their own file that they will submit.

How to do the labeling

Without Photos

If you have not been taking photos for most of the time, then, you can use your notes and manually enter the information for every meal in the Google spreadsheet. Once you're done with this process, please share your file with Eni. If you have questions about the used variables, please ask to make sure before you complete all labeling. Every row is an entire meal.

With Photos

If you have been taking photos regularly, you will be able to create 3 or 4 columns of the spreadsheet automatically: date, starttime, meal name, and duration in minutes. *[Read code comments in the Python file to see when you can create 3 or 4 columns, there are two different functions that do that.]*

The script `dateManipulation.py` in the folder `foodlabeling` does this step. For the script to work, you need to have labeled your file `photoCollectionDetails.csv` with the labels S and E as we have discussed in previous days (many of you have done this). However, you will need to check the file to make sure that every two consecutive photos are S and E that belong together. If you

have a few S-s without an E, you can enter an empty line and put the label E. If you have many S-s or many E-s for the same meal, you need to keep only one of them in the file and remove the others.

Concretely, you can compare the two files:
`photoCollectionDetailsOriginal`
`photoCollectionDetailsTransformed`

in the `foodlabeling` folder. The second file was created by performing the following changes to the original file:

remove line 9 because 2 consecutive S in close proximity (might have been second tray)
entered line 19 because S was missing E
entered line 27 because S was missing E
removed line 31 because 2 consecutive S in close proximity (a few seconds apart)
removed line 33 because 2 consecutive E in close proximity (a few minutes apart)

After these changes, there are exactly 18 meals in the file. By running the Python script dateManipulation.py with the photoCollectionDetailsTransformed file, we get the following result:

2017-09-05,07:54,Breakfast,15
2017-09-05,12:33,Lunch,17
2017-09-05,17:24,Dinner,11
2017-09-06,08:02,Breakfast,15
2017-09-07,07:05,Breakfast,14
2017-09-07,12:42,Lunch,6
2017-09-08,08:49,Breakfast,12
2017-09-08,12:27,Lunch,54
2017-09-08,15:45,Afternoon Snack,0
2017-09-08,17:13,Dinner,17
2017-09-09,11:09,Morning Snack,6
2017-09-09,16:23,Afternoon Snack,14
2017-09-10,08:36,Breakfast,0
2017-09-11,09:09,Morning Snack,4
2017-09-11,09:16,Morning Snack,2
2017-09-11,12:35,Lunch,19
2017-09-12,09:31,Morning Snack,6
2017-09-12,12:33,Lunch,18

You can open this file in a spreadsheet and then copy each column one by one in the Google spreadsheet for the first four columns: date, starttime, meal name, and duration in minutes.

Note: The Python code has been tested only with the files in the folder `foodlabeling`. If it's not working for you, contact Eni or go to help room on Sun and Mon evening. You can talk to other students in the class as well.

Submission: Share the Google spreadsheet of the labeled meals with Eni. Make sure it contains your name in the file title.