

Predicting Song Composition with Spotify Data

Central London Data Science

Wifi:welovecode

Collecting data

Research datasets

- Well curated, great for prototyping or benchmarking
- Already labelled
- Too sterile- May not be representative of real life

Curate your own:

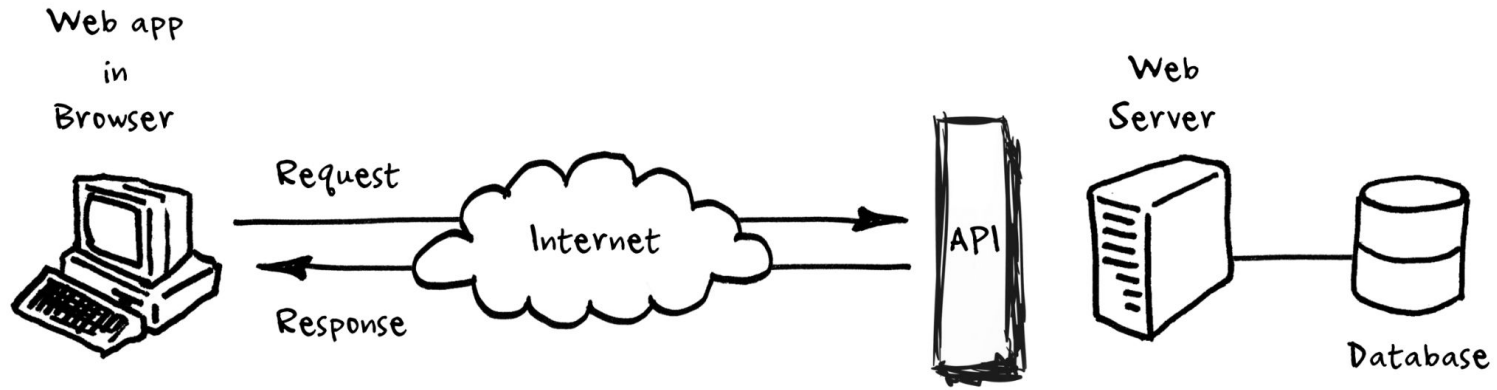
- Arduous
- Expensive

Collecting data

Why not get someone else to do it?

- Companies are collecting as much data as they can
- Significant amount of effort in curating it for you
- It will be real world events

Application Programming Interfaces



Types of music

What is a genre? 🤖

- Hip-hop, Metal, Acid jazz...
- Is it a group of people or culture that surround a type of music and label it accordingly?
- Or is it music that sounds distinct to any other type of music?

Let's just stick with the latter tonight....

Timbre

Distinguishes one sound from another

Same amplitude, same frequency same note != same timbre

We use words like:

- Sharp
- Eerie
- Bright

Spotify

- Music streaming service
- Access to millions of songs
- Super rich API



Starting with this...

```
{'meta': {'analyzer_version': '4.0.0', 'platform': 'Linux', 'detailed_status': 'OK', 'status_code': 0, 'timestamp': 1444833490, 'analysis_time': 21.35246, 'input_process': 'libvorbisfile L+R 44100->22050'}, 'track': {'num_samples': 11539500, 'duration': 523.33333, 'sample_md5': '', 'offset_seconds': 0, 'window_seconds': 0, 'analysis_sample_rate': 22050, 'analysis_channels': 1, 'end_of_fade_in': 0.0, 'start_of_fade_out': 523.33331, 'loudness': -6.82, 'tempo': 125.152, 'tempo_confidence': 0.078, 'time_signature': 4, 'time_signature_confidence': 0.877, 'key': 11, 'key_confidence': 0.738, 'mode': 1, 'mode_confidence': 0.664, 'codestring': 'eJxVm1eC4zgSRK-iI8Cb-19s3wuWZmZ_uouQBIJpIiMN9xzlrF7Wr_xqlaevc9tv1PVr9bZVVuv8NcZvtjXabfXXWym_edc6tc7-G5MPx6xjl37Wb7VRv0ztzHV_7Dx-e5yy5-jnt085v9ZW3Vy132mT-_DPGrv23y3nfJetzt_te_3G8r791l8tc5XfmfXc0SvXdZ7xu23v3Su_rpyreH3GbrVx3Wf78Qh3tjs014N_0Uc95R6etr0h18tb8HmfJfutfeq8XJ_G2c_kifZh_zHbyf3KKY3fj8v53v2qv5-tc9fFXfp15zqH_5bZ776z-IXNsXy0woPz1Xn7QpK7IK7NDXhuJMu9xhmda56r5bqXi1w5d833W0HAXvPXD9Hes3bbv3rr0sp-8QiNz-_wAQpSvWdy_-v91H47vSCaU1U1560cwWvvv0_j1-Vsrs9dv3PmRqmbz-viAf19Z8fh9eb3fH_Mw134BMHwL8bEP9W_esyo79Iqmu2FXRBvYnSiB3_f5j4Iaz9-wvSiw3qWAm0d7A14qqI2zBgJFzGvnhh0ZY11zHA4xuN5o1BueU_q9vxbreze8le8vLYhjFoRa-HwXH3jxa02fawwhFnDZY3Ktwj4No5C27zqfRWhr7egn7DV70-La-VNgL93PLzb5H4W12zn1vWtzroKAuc1SYWfVMu4PNWu3e87ZsXuuJwJGeh1Vr8X14X5cTzWzfx2z0781-HHdS89Es7-uubNH51oFDu411ujz13sbcBDtc3LUE7XpcP34-UY-s3H_dSf7jSh0rn3LYrvxxLmuHuPHe37iWVqa_vOPA-KaHTMYOthBPMNrcODHk_DclRv3XT8Hvus09t9zne_79XKcfcSDeUu76KUfb394srM4ItddqcwX5XDQX79FJysDb8Nz-MJtsZe1eK4FYuCW-i04VerpXmtwQNkeVcn30MgSHTBQ9o5DADYFDwZhr1V_6Lny5Da51gGew865ueYG7qe9IaCB3k_0L5byeRs-x-oc1Z0MpgPJQKhZsBwNw-W6FzxzoLleY29ct55rxXw5BnDRdF31DV4jgbNB4eF5bwFYwFnuryR_uMrEJmZguZVn332BcGN-iBf7FsVvzvNn39hg-S_iDfyi_QfxxsaA_qNw70Eo8Mn1EGJHAJ4vI
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Turning it into something that looks like this...

