



CS196

Data Science

Application Programming Interfaces

a.k.a APIs

Drop Deadline is this Friday!

HTTP Requests

HTTP Request Methods - *Specifying your intent*

- **GET**
 - Requests data from a specified resource
- **POST**
 - Submits data to a specified resource

Lesser Used:

- **PUT**
- **DELETE**

(There are others that are used even less frequently)

Accessing an API

Representational state transfer

- “RESTful” APIs and CRUD
 - Create (POST)
 - Add an entry or relationship
 - Read (GET)
 - List entries,
 - Update (PUT)
 - Overwrite an entry with new data
 - Destroy (DELETE)
 - Delete an entry
- Design patterns are useful, but every API is different
 - Different authentication models, filter keywords, query arguments, etc.

Data Science with APIs

- Another tool for collecting information
- More 'precise' than web scraping
- Limited by the information that the resource provides, as well as rate-limiting

A word on Authentication

- Many APIs require authentication
 - i.e. Authenticating with the Twitter API allows you to post tweets
- Different authentication methods:
 - API Key
 - Relatively insecure, but super easy to get going with
 - OAuth (and OAuth2)
 - A complete pain. Use a Python wrapper if possible

Time4Jupyter



