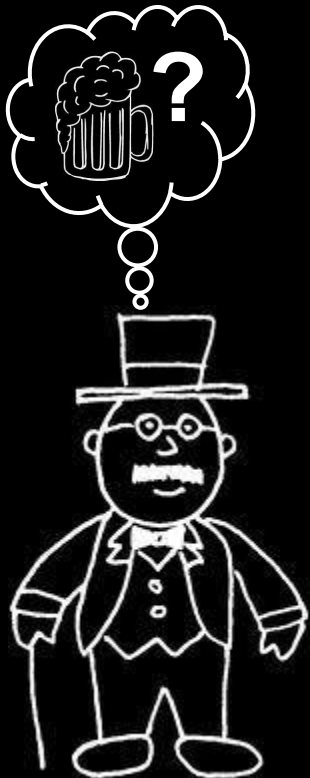


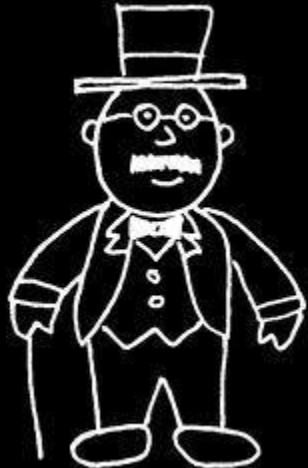
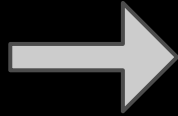
I want to drink new obscure craft beer that I will like, but it can be hard to find...

BeerInsight

Alex Tronchin-James



user reviews

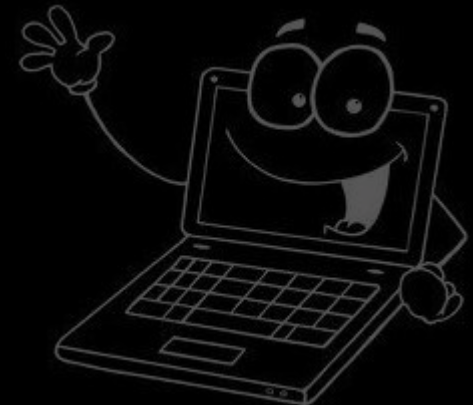
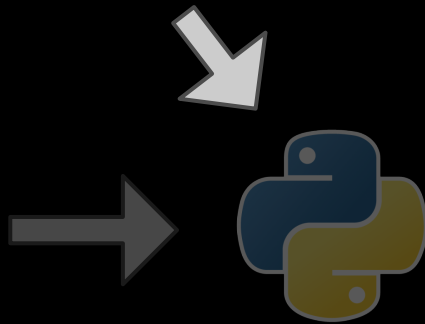


other user reviews

Beeradvocate™



user reviews

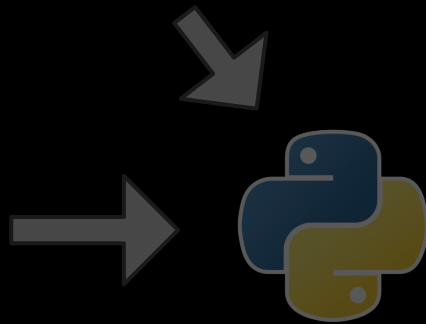


other user reviews

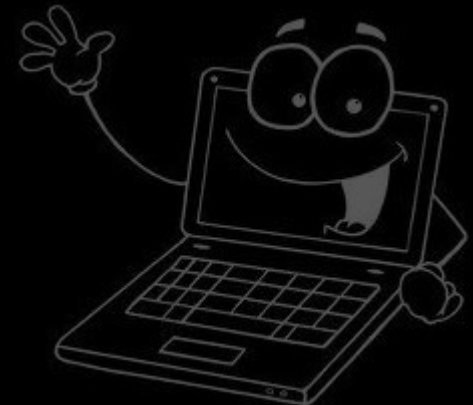
Beeradvocate™



user reviews



**collaborative filtering
recommender system**




The recommender is trained using the BeerAdvocate.com database

- 1,586,614 reviews, text, 0-5 star ratings
 - 56,857 unique beers
 - 33,388 unique users
 - Use these to build the **review matrices** Y and R
-
- Obtained from a friendly blogger (thanks!)
 - Previously available [from Stanford](#)



Hand-coded collaborative filtering

- regularized least squares linear regression with L-BFGS optimization
- ython used to return a sparse component of an otherwise dense matrix multiplication

$$\langle X\Theta^T, R \rangle = Y$$

- **pull request** in progress to include this to  SciPy.org

location data

other user reviews

Beeradvocate™

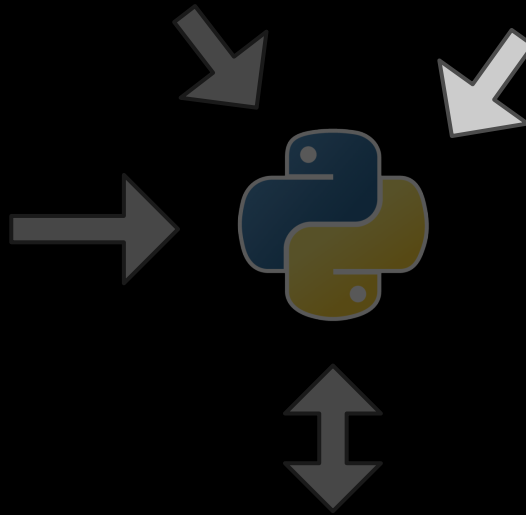


ratebeer

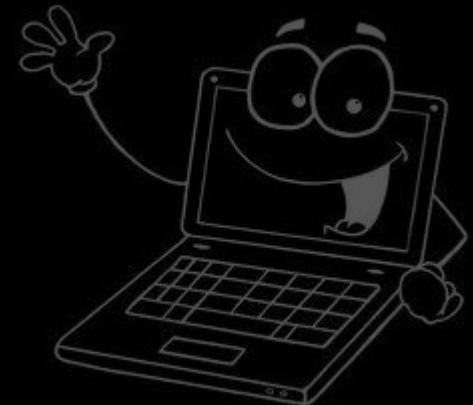


Requests

user reviews



collaborative filtering
recommender system

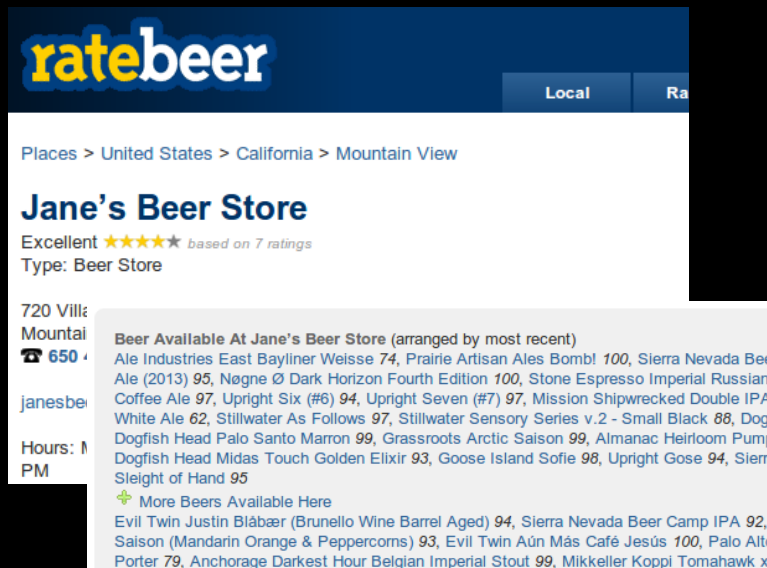


Filter results by location data scraped from RateBeer.com

- Names differ between databases

```
(48, u'Port Brewing/Lost Abbey|Port Brewing High Tide Fresh Hop IPA')
```

- ... but can be matched by n-gram similarity
- mismatches are easy to clean



ratebeer

Places > United States > California > Mountain View

Jane's Beer Store

Excellent ★★★★★ based on 7 ratings
Type: Beer Store

720 Village
Mountain View
☎ 650
janesbeer.com

Hours: 11 AM - 8 PM

Beer Available At Jane's Beer Store (arranged by most recent)

Ale Industries East Bayliner Weisse 74, Prairie Artisan Ales Bomb! 100, Sierra Nevada Beer Camp IPA (2013) 95, Nøgne Ø Dark Horizon Fourth Edition 100, Stone Espresso Imperial Russian Coffee Ale 97, Upright Six (#6) 94, Upright Seven (#7) 97, Mission Shipwrecked Double IPA 94, White Ale 62, Stillwater As Follows 97, Stillwater Sensory Series v.2 - Small Black 88, Dogfish Head Palo Santo Marron 99, Grassroots Arctic Saison 99, Almanac Heirloom Pumpkin 94, Dogfish Head Midas Touch Golden Elixir 93, Goose Island Sofie 98, Upright Gose 94, Sierra Nevada Sleight of Hand 95

More Beers Available Here

Evil Twin Justin Blåbær (Brunello Wine Barrel Aged) 94, Sierra Nevada Beer Camp IPA 92, Saison (Mandarin Orange & Peppercorns) 93, Evil Twin Aun Más Café Jesús 100, Palo Alto Porter 79, Anchorage Darkest Hour Belgian Imperial Stout 99, Mikkeller Koppi Tomahawk x



other user reviews

Beeradvocate™



location data

ratebeer

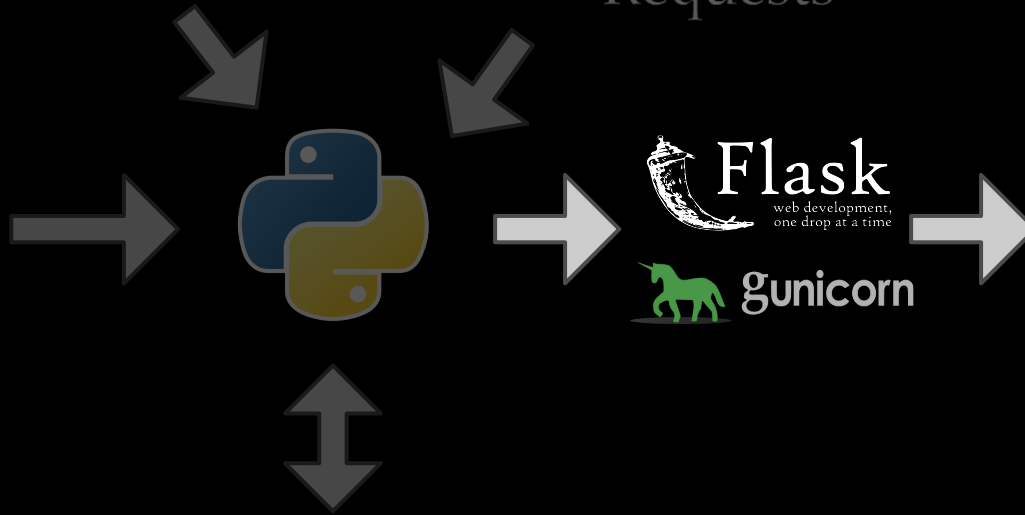


Requests

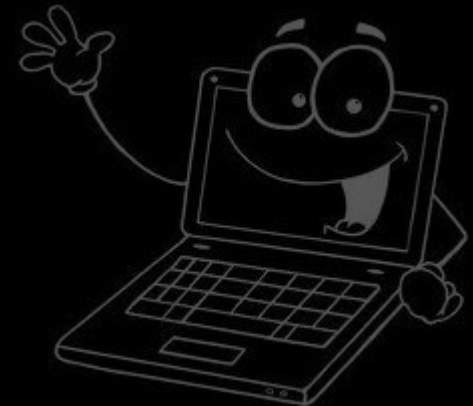
front end



user reviews



collaborative filtering
recommender system



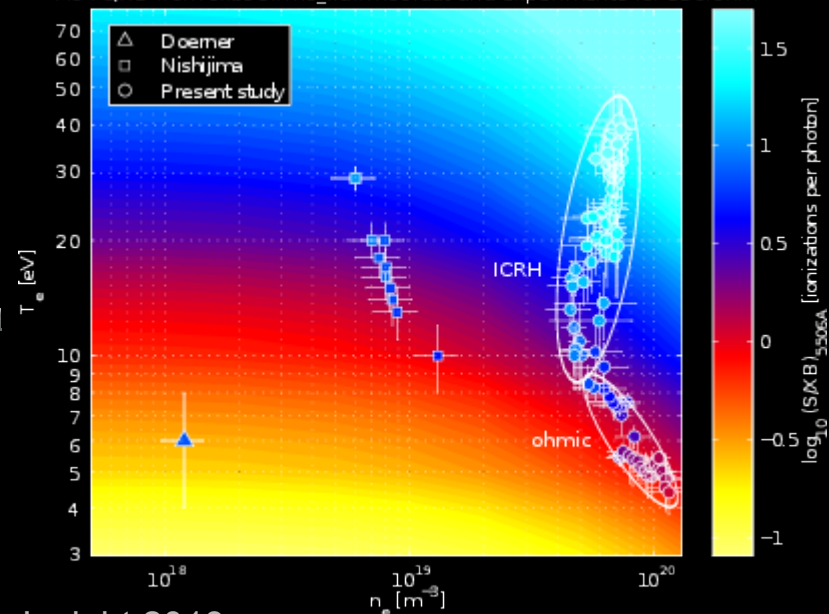
About me

Alex Tronchin-James

UCSD
Jacobs



Mo I S/XB from sxb93#mo_1lu#mo0.dat and experiments for 550.6nm



Alex Tronchin-James, Insight 2013

Tuning and validation

- Applying learning curves to tune number of features and regularization parameter

... TODO