

Example for Combining Machine Learning and Knowledge

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Which Wine would you choose?



£20.50

QTA DA PACHECA
COLHEITA WHITE

Young and very aromatic
this Pacheca have an
Moscato.

REGION DOURO



£30.50

DUAS QUINTAS
WHITE

Sweet bouquet of yellow
roses, peaches and
apricots.

REGION DOURO



Experience?
Knowledge?
Or in the end just the
price?
Can AI help?



£27.50

CALLABRIGA
RED

Deep red in colour with
lively aromas of fresh with
some notes floral, spicy
and balsamic notes.

REGION DOURO

£28.00
VALE RAPOSA
RESERVA RED

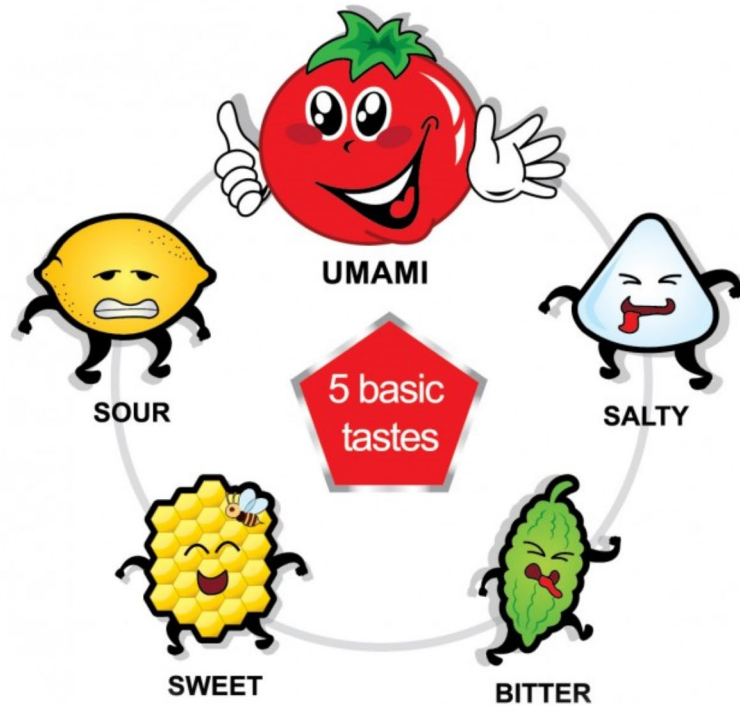
Smooth, soft tannins and
a fruity finish. If you
know the Douro this wine
will make you start have
an opinion.

REGION DOURO

Which Whiskey do you like?



Recommendation Criteria: Taste



Describing Taste - Profiles

Flavour Profiles

Young & Spritely

Sweet, Fruity & Mellow

Spicy & Dry

Deep, Rich & Dried
Fruits

Old & Dignified

Light & Delicate

Juicy, Oak & Vanilla

Oily & Coastal

Lightly Peated

Heavily Peated

Peated

Spicy & Sweet

Deep, Rich & Dried Fruits

Deep, Rich & Dried Fruits offers a wonderful selection of aromas and flavours. Our Tasting Notes describe fruity whisky profiles on the nose such as marmalade, balsamic glazed fruits and demerara. If you discover flavours of rum, truffles, treacle toffee and salted caramel, you're probably not far off for this profile.

Oily & Coastal

Our Oily & Coastal flavour profile certainly contains coastal whiskies, but it isn't limited to them. That's because the Society challenges traditional whisky convention to focus on flavour as the main guide. The flavours in this category remind us of coastal settings and the foods and experiences available there, with oysters, barbecued prawns and beach bonfires.

Describing Taste – Individual Whiskies

The palate is bathed in a **sunshine glow of tropical fruits (banana, custard apple, monstera)** – intensely sweet, mouth-watering and lip-smacking, but with Victory V's and **salt and pepper crisps** reminding us it has slept long in oak.

The air was filled with **cinder toffee, raisins, dates, Brazil nuts, balsamic vinegar** and a rich Malmsey Madeira wine. On the palate we nibbled **sweet, salty and spicy roasted party nuts** whilst we chatted, sharing a laugh and a drink with friends.

We were foraging for **berries in bushes**, drank a **cranberry orange prosecco cocktail** and distilled **sandalwood oil**. On the palate neat it was just like a Caribbean black cake, a boozy **rum-soaked fruit cake** with a good dose of molasses, brown sugar and browning (burnt sugar) sauce. With **water polished mahogany**, sweet myrrh incense and salty liquorice were followed by zesty Indian lime pickle and extra dark honey vanilla cornbread.

(copied from whisky descriptions of the Scotch Malt Whisky Society www.smws.com)

Data Driven Filtering

Customers also bought

Neu



Talisker Skye Single Malt Scotch
Whisky 70cl mit Etui und 2
Rocking Gläsern

CHF 58.00



The Ultimate Mortlach 2008
Single Malt Scotch Whisky 70cl

CHF 68.00

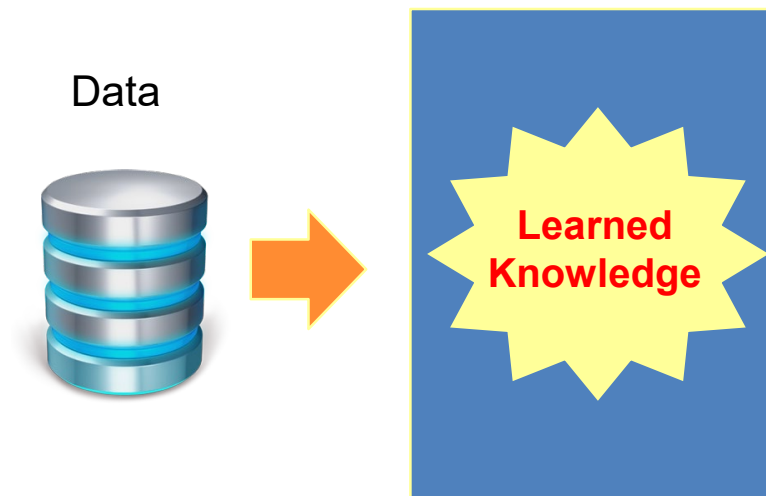


Talisker Port Ruighe Single Malt
Scotch Whisky 70cl mit Etui

CHF 65.00

Data Driven Recommendation

Collaborative Filtering
- compare tastes



Challenges for Data Driven Solutions

- Consistency of Past and Future
- New and Rare Products
- Explanations

Consistency between Data and Intent

Customers also bought

Neu



Talisker Skye Single Malt Scotch Whisky 70cl mit Etui und 2 Rocking Gläsern

CHF 58.00



The Ultimate Mortlach 2008 Single Malt Scotch Whisky 70cl

CHF 68.00



Talisker Port Ruighe Single Malt Scotch Whisky 70cl mit Etui

CHF 65.00



Kopfgetriebeöl 10T30 Nuss-Karamell Likör 50cl

CHF 24.90

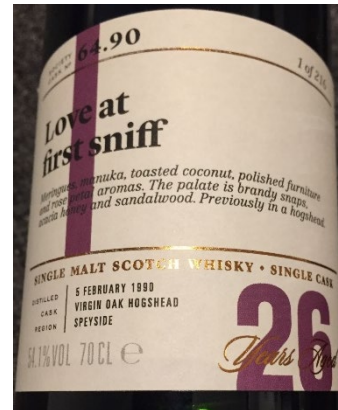
Not a whisky

Challenge: New and Rare Products

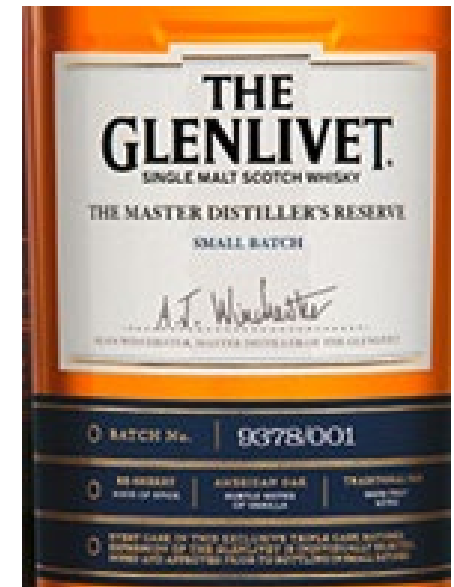
Limited Editions



Single Cask



Small Batch

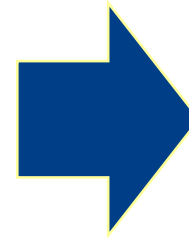


New Distilleries/Brands



Objective: Chat with an Expert

Whisky Expert



A Virtual Bartender

Hi, I'm your barkeeper. I'd like to recommend you some whiskies. Are you familiar with whiskies?

nope unfortunately not!

Okay, pal - that's not a problem. I love to introduce guests to the world of whisky. I'd recommend an starter whisky, that is normally a sweeter one. Is it okay or do you want to proceed with attribute selection?

starter-whisky

Okay pal, you'd probably start with a sweeter whisky like Glenmorangie. However you'll find some more sweet ones below.



Glenglassaugh
This whisky comes from the northern Scottish provinces, where it was distilled a...

[select Glenglassaugh](#)

Talisker
This noble drop w

Let me know which one you'd like to choose by clicking on the appropriate card

[select Glenglassaugh](#)

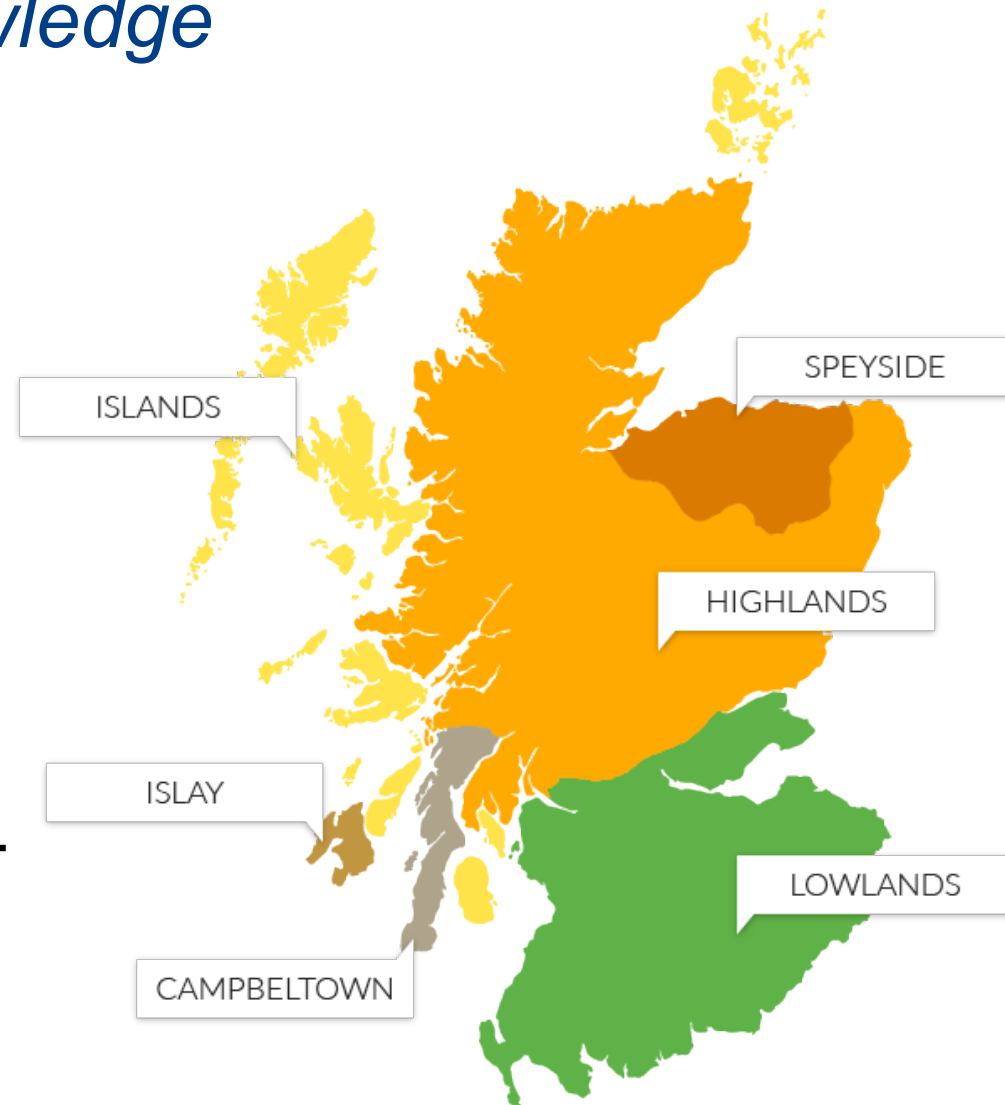
Excellent choice, Let me know how you liked it.

it was not that good

Thank you for your feedback. I will remember your preferences!

Semantic AI: Expert Knowledge

- Ontology:
 - ◆ Lagavullin and Ardbeg are from Islay
 - ◆ Whiskies from Islay are typically smoky
- Rules:
 - ◆ Whiskies can be finished in other casks: Sherry, Port, ...
 - ◆ Oak casks give a vanilla flavour
 - ◆ ...



Combining Data-driven and Knowledge-based Recommendation

Collaborative Filtering
- compare tastes



Knowledge Base
- explanations

