


#805 Eating Invasive Species

Team Members

 Ruobin Hu (CS MS)

 Yun-Jing Lee (CS MS)

 Xiaoyu Lu (CL MS)

 Yonglin Wang (CL MS)

Topic Overview

<title>

eating invasive species

</title>

<desc> Description:

Would eating invasive species be a viable method of controlling/eradicating them?

</desc>

<narr> Narrative

Relevant documents identify invasive species in the U.S. that can be eaten by human beings and discuss the likelihood of controlling the species through consumption. Comments on the color, taste, texture, or other culinary qualities of particular invasive species are also relevant.

</narr>

Document relevance counts

rel	2	1	0	
count	9	26	369	404



oc_i ▲	title		th	notation	ier	content_str
F...	Filter			5-2 ✕		Filter
1	2050	Contest removes loads of snakeheads from Potomac		805-2		Correction: An earlier version of this article incorrectly described participants as using crossbows. Compound an
2	3812	Lionfish hunting in Belize		805-2		Sinking slowly through Belize's turquoise sea, Giovanni Gonzalez has murder on his mind. The dive guide scans t
3	5075	At benefit, eating snakehead to help the Chesapeake Bay		805-2		There's no nice way to say this, no way to spare any feelings. The northern snakehead is one ugly fish. Seriously
4	8974	Blue catfish: Overabundant, and the key to a new nonprofit group's missi...		805-2		The name "blue catfish" doesn't carry the same villainous ring as that of its invasive counterpart, the snakehead
5	12465	Can U.S. eliminate invasive species by eating them?		805-2		HOUSTON — It seems like a simple proposition: American lakes, rivers and offshore waters are filling up with des
6	26202	Blue catfish are destroying the Chesapeake Bay. Congress isn't helping.		805-2		More than a decade ago, the northern snakehead was Public Enemy No. 1 on the Potomac River, an air-breathing
7	28491	Andrew Zimmern's 'Bizarre Foods America' returns Monday with D.C. epi...		805-2		Snacking on snakehead fits comfortably into the eat-anything ethos of Andrew Zimmern's "Bizarre Foods" emp
8	40653	Snakehead taste test — can a fish this ugly really taste that good? (Pho...		805-2		(This is part 2 of It's snakehead weather! A good day of fishing on the Potomac River) Are snakeheads as tast
9	42556	Invasive Asian carp could overtake Lake Erie, study finds		805-2		A new study suggests that Asian carp, which have been spotted in watersheds close to the Great Lakes, would

Baseline Retrieval Scores

NDCG@20 for PA5 System

comb	title	description	narrative
BM25 + default analyzer	0.57707095	0.54348136	0.693426404
BM25 + custom analyzer	0.54730548	0.39748219	0.658914075
Reranking with fastText embeddings + default analyzer	0.69520304	0.43824832	0.324171071
Reranking with sentence BERT embeddings + default analyzer	0.59269152	0.62646203	0.414074916

TP

doc_id	annotation	title
12465	805-2	Can U.S. eliminate invasive species by eating them?
42556	805-2	Invasive Asian carp could overtake Lake Erie, study finds
13788	805-1	Aggressive lionfish invade non-native waters. Eat them.
18276	805-1	Spread of snakehead fish in Potomac River concerns area officials
40610	805-1	It's snakehead weather! A good day of fishing on the Potomac River (Photos)

False alarms and Misses

False alarms (FP)

Many have keywords “Eating” and “Invasive Species”, but focus on how invasive species eat, instead of how humans can eat them. (Wrong word order)

Misses (FN)

- + Keyword missing.

Conclusion

Context and word order is important. Focus more on models that takes word order and context into account, such as BERTs.

Work Allocation

- Database: Add embeddings (Yun-Jing Lee)
- Data Analysis & NLP: (Yonglin Wang & Xiaoyu Lu)

- Query term expansion
- Experiment with Bert model types
and/or encoding longer documents
- Display relevant sentence containing
the keywords on UI



- Web UI: Upgrade PA5 (Ruobin Hu)

About 294 results (1.09 seconds)

<https://www.washingtonpost.com> › national › 2014/05/25

[Can U.S. eliminate invasive species by eating them? - The ...](#)

May 25, 2014 — “**Eating invasive species** is not a silver bullet,” said Laura Huffman, the ... native fish, and they are **eaten** only by sharks — or larger lionfish.

<https://www.washingtonpost.com> › news › 2015/02/23

[The dirty dozen: 12 of the most destructive invasive species in ...](#)

Feb 23, 2015 — For some animals, there's no such thing as a dog-**eat**-dog world. They rule. Animals from around the world that stow away in airplanes, ships ...

<https://www.washingtonpost.com> › national › 2014/10/19

[Divers try spoon feeding lionfish to sharks, a method that ...](#)

Oct 19, 2014 — Spoon-feeding lionfish to sharks could teach them to **eat** the problem fish — or, some say ... Can we eliminate **invasive species** by **eating** them?

Code Management

GitHub repo