



RADAR PROJECT - HORIZON SCAN AUTOMATION

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Welcome to Our Project Presentation



Agenda



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Background

Insights from the WHS Radar are derived from:

- the analysis of existing databases (Australian Business Register), social media data and data reports (Australian Bureau of Statistics),
- a review of the international grey and academic literature, and
- consultations with Australian workers, with senior WHS professionals and WHS inspectors.

Objectives



Our project aims to automate the extraction of up-to-date and pertinent content from a selection of reliable public data sources, cleaning and analyzing the information, and finally delivering valuable summaries and insights.

- 01 Generate all links from Media/News pages
- 02 Scrapping data with Title, Content, Publish Date, Link of Article
- 03 Data cleaning to filter the articles within selected date range and key words
- 04 Summarize each article

Achievements

	Headline	Content	Date	Reference URL	Similarity Score
18	Asbestos removal licence suspended after safet...	The contractor also failed to give SafeWork SA...	2024-01-24	https://www.safework.sa.gov.au/news-and-alerts...	0.145463
20	Locking in our major public holidays	The Public Holidays Act 2023 was finalised in ...	2023-11-16	https://www.safework.sa.gov.au/news-and-alerts...	0.058703
37	2023 Augusta Zadow Awards announced	The SafeWork SA awards were presented by the G...	2023-10-20	https://www.safework.sa.gov.au/news-and-alerts...	0.206498
46	Carbon Monoxide: A threat in your workplace	Carbon monoxide: a threat in your workplace\n...	2024-03-25	https://www.safework.sa.gov.au/news-and-alerts...	0.085564
57	Changes to regulations for Amusement devices	On 25 December 2023 amendments relating to amu...	2023-11-30	https://www.safework.sa.gov.au/news-and-alerts...	0.174004
58	Holiday rostering reminder	Section 13B of the Shop Trading Hours Act 1977...	2023-12-15	https://www.safework.sa.gov.au/news-and-alerts...	0.019332
61	Retail work hazards under the microscope	From March, SafeWork SA inspectors will visit ...	2024-03-15	https://www.safework.sa.gov.au/news-and-alerts...	0.180482
62	Building site blitz reaches new heights	Since 3 July, SafeWork SA inspectors have perf...	2023-11-13	https://www.safework.sa.gov.au/news-and-alerts...	0.097568
65	Dangers of bypassing safety devices	Inspectors recently attended a worksite where ...	2023-12-12	https://www.safework.sa.gov.au/news-and-alerts...	0.304078

Data Clean steps

- remove duplicate
- convert to a valid date format
- drop the rows if date is empty
- filter date
- key words similarity check
- find threshold for similarity

Achievements - (cont'd)

insight_llama2

* National Safe Work Month: South Australian businesses celebrate by hosting events to promote workplace health and safety.

* Innovative activities include a hazards scavenger hunt, virtual race, safety bingo, and mental health first aid training.

* Participating organisations were judged on WHS relevance, employee engagement, and originality, with gold, silver, and bronze awards given to the top performers.

* The Hospital Research Foundation Group won the gold award for its comprehensive activities, including low-impact fitness sessions and opportunities for staff to connect with mental health first aiders.

* The YMCA won the silver award for its "Youth Spruce Your Storeroom Challenge," which encouraged young staff members to identify safety solutions in storage areas.

* Qscan Group won the bronze award for its comprehensive response to violence and aggression in the workplace, including a policy, procedure, and specialized training modules.

* Adelaide Oval and Ashborn Industries also received awards for their innovative safety initiatives.

LLAMA 2

- Descriptive summary
- Free to use

Achievements - (cont'd)

insight_Gemini

- * This year's National Safe Work Month competition witnessed a record number of high-quality submissions.
- * The Hospital Research Foundation Group, The YMCA, Department of Human Services, Qscan, Adelaide Oval, and Ashborn Industries emerged as the top-performing organizations, showcasing exemplary safety initiatives.
- * The winning activities included a "hazards scavenger hunt," "virtual race," "safety bingo," and tailored workshops on psychological safety and violence prevention.
- * The Hospital Research Foundation Group's comprehensive approach to safety, encompassing physical fitness, mental health, and employee engagement, stood out among the entries.
- * The YMCA's "Youth Spruce your Storeroom Challenge" actively engaged young employees in identifying and resolving safety hazards.
- * The Department of Human Services' focus on influencing workplace wellbeing and safety through HSR training and leadership forums highlighted the importance of strong safety advocacy.
- * Qscan's national response to violence and aggression, coupled with their happiness scorecard initiative, demonstrated a proactive approach to workplace safety.
- * Adelaide Oval's interactive activities, including Safety Bingo and a "Safety Amazing Race," effectively educated and engaged staff in safety practices.
- * Ashborn Industries' comprehensive program of noise assessment, safety awareness activities, and regular "Safe Morning Teas" showcased their unwavering commitment to workplace safety.

Gemini Pro

- Concise summary

Achievements - (cont'd)

insight_llamachat

- * Innovative activities to celebrate National Safe Work Month include a "hazards scavenger hunt," virtual race, and safety bingo.
- * Participating businesses included medical research groups, government agencies, youth organizations, and manufacturers.
- * The judging panel awarded gold, silver, and bronze prizes to the following winners:
 - + Hospital Research Foundation Group
 - + YMCA
 - + Department of Human Services
 - + Qscan
 - + Adelaide Oval
 - + Ashborn Industries
- * Activities included workshops on "influencing wellbeing and safety in the workplace" and "psychosocial safety," as well as training programs on de-escalating workplace aggression.
- * The Qscan Group developed a comprehensive national response to violence and aggression in the workplace, while Adelaide Oval held educational and interactive activities to promote safety in the workplace.
- * Ashborn Industries undertook a comprehensive program of activities across its regional and city offices, including a detailed workplace noise assessment and weekly "Safe Morning Teas."

LLAMA Chat

- More concise than LLAMA 2 with better statistical details

Key Limitations

Objectives	Limitations	Examples	Recommendations
Generate all links from Media/News pages	Authentication is required for accessing the internal link.	<ul style="list-style-type: none">Trend Atlas	Only authorised people can access
	~ 20% of the websites block data scraping	<ul style="list-style-type: none">DeloitteThe Conversation	1. Getting Data via Service-APIs (Web Services) 2. Review content manually
	Require subscription	<ul style="list-style-type: none">Safety at Work BlogAgriculture - Weekly Times Now	Buy subscription
	The articles are not in textual content	<ul style="list-style-type: none">OSHA EuropeCFMMEU - Construction Forestry Maritime Mining and Energy Union	Review content manually
	Executing the code demands considerable time and computational capacity (few hours)		Require large computational capacity

Key Limitations (cont'd)

Objectives	Limitations	Examples	Recommendations
Data cleaning to filter the articles within selected date range and key words.	Number of results depends on cosine similarity threshold.	Keywords such as “work health and safety”, the similarity threshold is around 10%-15%.	High threshold number capture less results, and vice versa
Summarize each article by LLAMA 2/ LLAMA Chat	More computational resources required		Anything above i7 and decent GPU is recommended
Summarize each article by Gemini Pro	Only 60 requests per minute under Free Version (approximately summarize 60 content per minute) Extra Cost may apply in the future		Purchase subscription if required



Showcase

Sagar Bhagwatkar

