BetterBeliefs
HANDBOOK

This handbook provides context and instructions for using BetterBeliefs at REAIM 2023.

Meet the Founders

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BetterBeliefs

BetterBeliefs is an online platform for sharing and evaluating ideas, and for using collective intelligence to make evidence-based decisions. It was built by Australian university researchers to improve the quality, integrity, and breadth of collective participatory data.

At REAIM 2023, BetterBeliefs provides an intuitive, interactive way for all participants to contribute and engage with ideas for the responsible use of AI in the military domain.

REAIM Summit attendees are invited to register and log in to the BetterBeliefs 'REAIM2023' event and start interacting with the REAIM community online at betterbeliefs.com.au/register

At REAIM, BetterBeliefs is working with a range of organisations including Ethical, Legal and Societal Aspects (ELSA) Lab Defence Netherlands, United Nations Institute for Disarmament Research (UNIDIR), the Center for Naval Analysis (CNA), Modern War Institute at Westpoint, West Point Lieber Institute, and the End of War Project.

BetterBeliefs has been used in a similar forum: *Ethical AI in Defence* workshop 31 Jul to 1 Aug 2019, in Canberra, Australia, lead by Defence Science and Technology Group, Plan Jericho, Royal Australian Air Force, and Trusted Autonomous Systems. BetterBeliefs data from this workshop was used by the Defence Science and Technology Group to produce a report on ethical AI uses in Defence contexts, and to develop a practical methodology that could support AI project managers and teams to manage ethical risks.

The platform is GDPR compliant and event data is accessible to all participants. There is no app to download — BetterBeliefs is accessible through a browser on any device.

This handbook provides context and instructions for using BetterBeliefs at REAIM 2023.

REAIM 2023

REAIM 2023 is the first global Summit on Responsible Artificial Intelligence in the Military Domain. The summit is an opportunity for all stakeholders to discuss the key opportunities, challenges and risks associated with military applications of AI.

REAIM 2023 AIMS TO

- Put the topic of responsible AI in the military domain higher on the political agenda
- Mobilise and activate a wide group of stakeholders to contribute to concrete next steps
- Foster and increase knowledge by sharing experiences, best practices and solutions

REAIM 2023 themes

1

Mythbusting AI: breaking down the characteristics of AI

What do we need to know about the technical aspects of AI to understand how it can be applied responsibly in a military context?

2

Responsible deployment and use of AI

What do military applications of AI mean in practice? What are the main benefits and vulnerabilities?

3

Governance frameworks

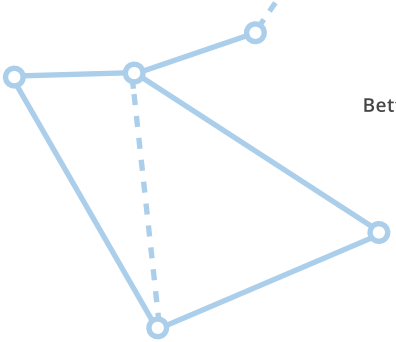
Which frameworks exist to ensure AI is applied responsibly in the military domain? What additional tools could strengthen governance frameworks, and how can stakeholders contribute?

For more information visit https://reaim2023.org/

Addressing opportunities and concerns for AI in military technologies

AI plays a vital role in enhancing the performance and security of the armed forces, but it is critical to consider the ethical, legal, and societal implications of AI in the military domain, as well as the operational and strategic risks these technologies pose.

Operational risks arise from questions about the reliability, fragility, and security of AI systems. Strategic risks include the possibility that AI will increase the likelihood of war, escalate ongoing conflicts, and proliferate to malicious actors. Societal, ethical, and legal issues arise around transparency, reliability, predictability, accountability, and bias in AI applications.



CURRENT TOOLS FOR RESEARCH AND RECOMMENDATIONS

Participatory research with diverse stakeholders needs efficient tools that can capture messy, qualitative data in a logical way that maintains its fidelity and makes it appropriately influential to research outcomes.

Data is usually captured during interviews, round-table discussions, workshops, panels, surveys and focus groups. Digital tools include recording and transcription software; online voting or content tools; survey tools; and shared documents. Researchers then use data analysis tools to classify data to form insights.

Collected data is often then compared with other sources of evidence in the form of a literature review or desktop analysis. Other evidence can include academic, government and organisational books, journal articles, reports, media and social media.

Current tools take a long time to gather and process data, proceed linearly and do not allow diverse stakeholders to interact with the data proposed by other participants. These tools require a researcher to sort through data and identify their interpretation of how data fits to hypotheses, rather than asking participants to identify hypotheses.

Finally, researcher-led hypotheses are usually interrogated through the process of peer review, rather than by participants and stakeholders.

Participatory research would be better if data is collected and available to stakeholders, and algorithms automatically help sort the value of data, making a researcher or decision-maker's job easier and more efficient.

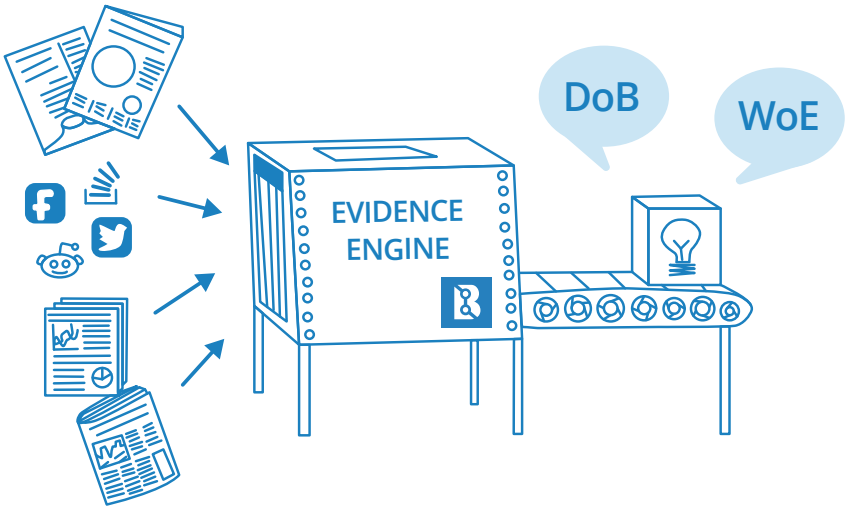
WHAT IS NEEDED FROM TOOLS?

What we need are tools that bring participants into the process of hypothesis generation and review. We need tools that allow participants to evaluate and respond to evidence presented by other participants. Tools should automate the process of analysis, forefronting ideas that the collective has identified as particularly valuable, and indicating those ideas that are more controversial or strongly opposed by participants. Tools should make research data transparent, interactive, accessible and available for download by all participants. Finally, tools should expedite the researcher's report writing and recommendation process.

BetterBeliefs has been designed to meet each of these needs.

What is BetterBeliefs?

BetterBeliefs is a platform for making evidence-based decisions by crowdsourcing ideas, evidence, and evaluations. BetterBeliefs allows organisations and communities to draw on the knowledge and experience of participants to make decisions, set goals, and design strategies.



The platform encourages everyone to participate by contributing their ideas, evidence, and knowledge to tackle issues. The ideas and evidence are discussed, evaluated, and voted on – everyone's opinion matters.

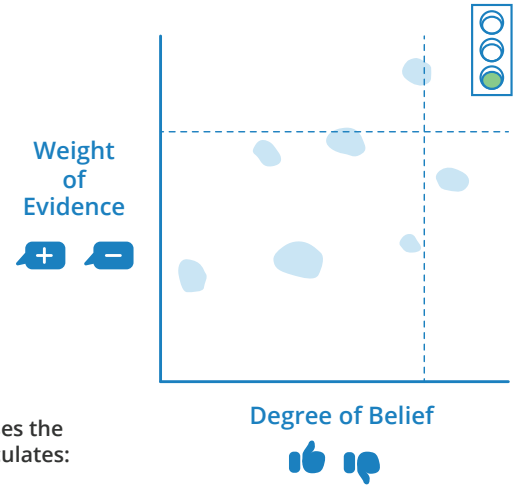
This approach allows for a wide range of ideas to be considered, and encourages participation from stakeholders of all levels of expertise and experience.

The resulting 'collective intelligence' **reduces cognitive biases**, identifies ideas with the strongest **belief and evidence**, and makes **innovation and collaboration** more efficient.

How does it work?

1. Users add ideas and evidence

2. Users evaluate and rate each other's ideas and evidence



3. The Evidence Engine analyses the data for each idea, and calculates:

   The **Degree of Belief (DoB)**
   How much do people believe in the idea?

   The **Weight of evidence (WoE)**
   How much evidence is there for the idea?

4. The ideas are plotted on a graph according to their metrics, and actions are recommended.

   - Ideas that have ***strong evidence*** and a ***high degree of belief*** are green-lit for action.
   - Ideas that are ***highly believed in***, but have ***poor evidence*** get a red warning light – more work is needed.
   - Ideas that are ***less believed in***, but have ***good evidence*** are highlighted in yellow, and suggest a need for more communication.
   - Ideas that are low in belief and evidence, controversial or poorly formed remain in white.

Why did we build
BetterBeliefs?

BetterBeliefs was created by Australian academics to improve evidence-based collaborative participant-led research, and to empower diverse, often marginalised voices by incorporating their perspectives into an actionable evidence stack. The platform design encourages intuitive, inclusive, transparent, evidence-based and responsive stakeholder engagement.

We recognised that while online platforms make it easy for people to communicate, there is rarely a mechanism to calculate the evidential weight of content. What's more, social media algorithms, which are designed to boost engagement, intentionally create social silos and amplify emotive content – regardless of accuracy.

Because of this, organisations and communities have access to more data than ever, but beliefs are increasingly formed in echo-chambers and promoted in organisational silos.

On the BetterBeliefs app, voices are amplified proportionate to the quality of their ideas and the weight of their evidence – not their power, popularity, or emotional charge.

We believe that organisations using BetterBeliefs will pinpoint ideas that are important to stakeholders, will save time and money by investing in ideas that have solid evidence and stakeholder belief, and benefit from data-driven guidance on how to investigate and communicate ideas.

Betterbeliefs was inspired by a carnival game where people repeatedly press a button to progress their horse in the race. In the platform hypotheses are imagined as horses competing with each other, and each one has an image of a horse showing its place in the race. Like pressing the button in the carnival game, horses that do well are 'fed' with the most numerous and the highest quality evidence.

Using BetterBeliefs at REAIM 2023

All attendees are invited to contribute to the REAIM 2023 event on BetterBeliefs.

DURING WORKSHOPS

Some workshops will incorporate the use of BetterBeliefs to generate ideas and gather evidence. Attendees are also able to contribute to the platform during workshops which don't specifically incorporate BetterBeliefs.

OUTSIDE OF WORKSHOPS

Anyone can add hypotheses, evidence, or ratings before, during or up to four weeks after the summit relating to the main themes and topics identified by REAIM organisers.

AFTER THE EVENT

Once BetterBeliefs has completed collection data from event participants at REAIM 2023, BetterBeliefs and partners will analyse the data and create reports for participants and organisers of the event. Participants can also download and analyse the data themselves.

Participants and workshop leads may use BetterBeliefs REAIM 2023 data to write reports, academic journal articles or publications aimed at promoting responsible use of AI for military purposes.

Our goal is to include diverse perspectives and authentically represent the voices of participants; we encourage you to contribute your own ideas and analyses.

If you have any concerns regarding the use of your data, or if you wish to have your data removed from the platform, contact us at info@betterbeliefs.com.au

Privacy Policy

BetterBeliefs has been designed to the highest standards of transparency and empowerment for data subjects through compliance with GDPR and commitment to Good Data practices (see Good Data eprints.qut.edu.au/125605/).

Our Privacy Policy explains when and why we collect personal information about the people who use the BetterBeliefs platform, how we use it, the conditions under which we may disclose it to others, and how we keep it secure.

Read our privacy policy at betterbeliefs.com.au/index.php/privacy-policy/

Quickstart guide

Create an account

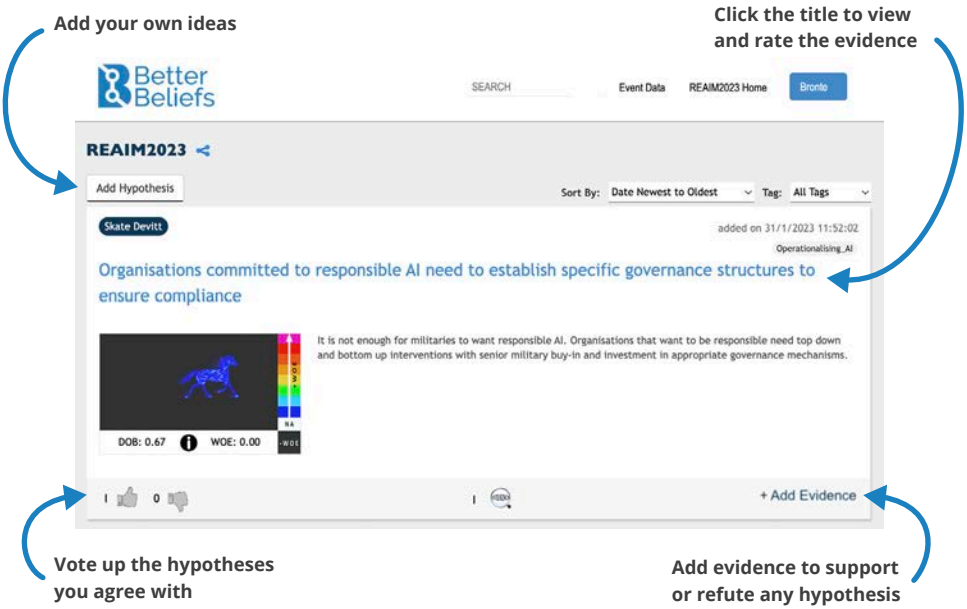
Scan the QR code to create an account and register for the REAIM 2023 event on BetterBeliefs.

Or visit
https://betterbeliefs.com.au/register

BetterBeliefs works on any mobile, tablet, PC and Mac connected to the internet. There is no app to download.

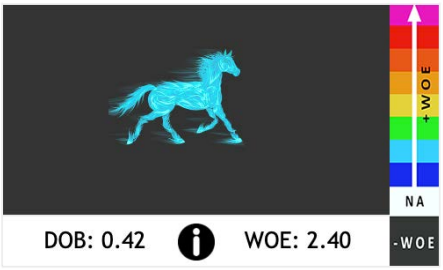
The Home page

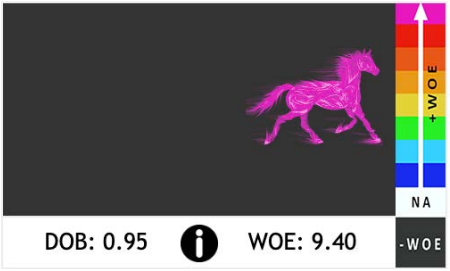
The home page is where you can see and interact with every hypothesis added during your event. To return to this page from anywhere in the app, click **REAIM2023 Home** in the top menu.



Metrics

Each hypothesis has two metrics – Degree of Belief (DOB) and Weight of Evidence (WOE). You can see these metrics on the hypothesis cards.





The colour and placement of horses on the hypothesis indicate the DOB and WOE metrics. The blue horse shows medium belief and low evidence weight, while the pink horse shows high belief and high evidence weight.

DEGREE OF BELIEF (DOB)

DOB is based on thumbs up and thumbs down votes, and measures the proportion of people who agree with a hypothesis, i.e. those who believe that the hypothesis is correct.

The horses on each hypothesis card 'race' using the DOB metric. Horses with high DOB are further ahead, so they appear on the ride side of the image – the higher the DOB, the further ahead they are and the farther right they appear.

DOB is scored from 0.0 to 1.0, where 1.0 means 100% of people believe it, and 0.0 means 0% of people believe it.

WEIGHT OF EVIDENCE (WOE)

WOE measures how strongly the hypothesis is supported by evidence. WOE combines the number of supporting and refuting evidence items, weighted by their star ratings.

Weight of evidence scores from 0 - n. It increases with the amount of evidence items added.

Horses with low WOE will be blue. Horses with high WOE will be pink. Horses with negative evidence are black. Horses with only one person interacting with them will be white.

Instructions

Hypotheses

In the context of BetterBeliefs, a hypothesis is a statement that is backed by evidence.

A hypothesis can be:

- An idea
- A solution
- An observation or explanation
- A prediction
- A moral/ethical stance
- Something else

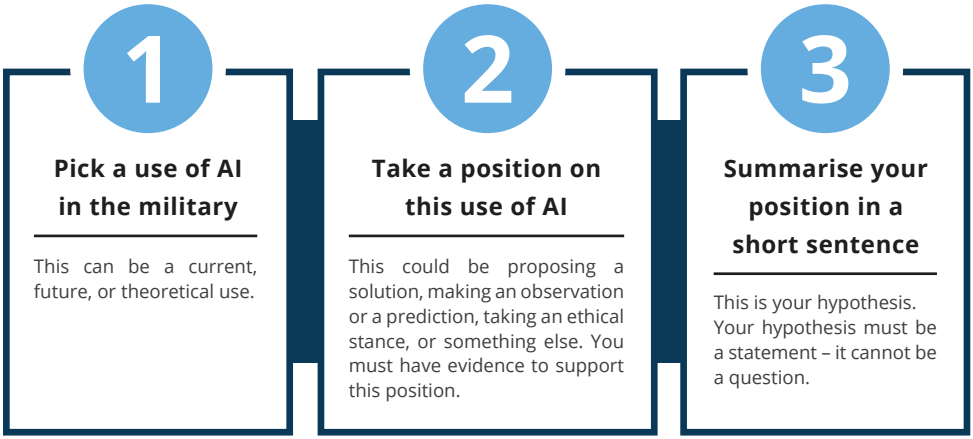
Note: *hypotheses are not questions – they are an assertion of what ought to be.*

You don't need to strongly agree with your hypothesis to add it. As long as you can provide evidence, you can add hypotheses that you:

- are skeptical or curious about,
- think are radical, unusual, controversial or 'out there',
- would like input and feedback on,
- feel are poorly supported by evidence,
- have evidence against,
- believe, but don't have enough evidence to justify investigating, or
- do not believe.

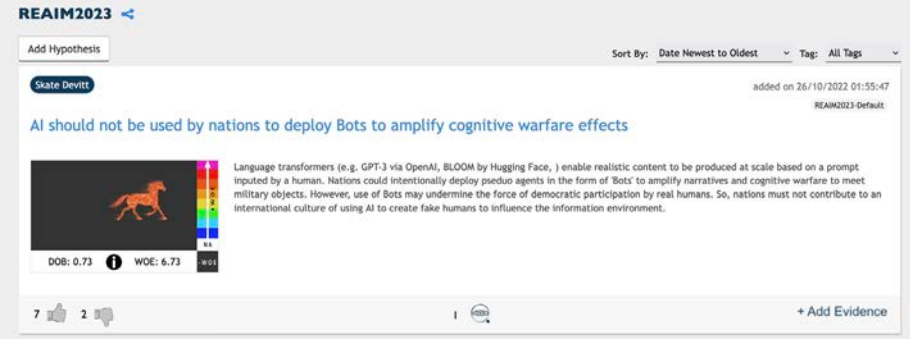
How to form a hypothesis

A well-formed hypothesis is a simple proposition that a reasonable person could either agree or disagree with. For example: *Dogs should be the only companion animals allowed inside an airplane cabin on domestic flights.*

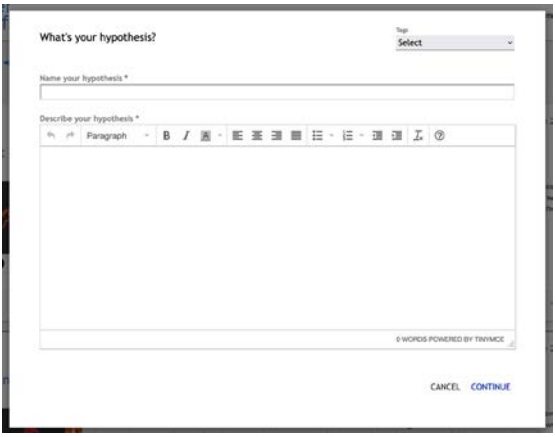


How to share a hypothesis on Better Beliefs

1 On your event home page, click the **Add Hypothesis** button.



2 Name your hypothesis, and make sure the name states your position.



Try to use words that imply what is **obligatory**, **permissible**, or **forbidden**, such as: *Only, most, all, some, many, never, ought, permitted, should, can, should not, can not, may be, occasionally, sometimes, ought not, in some cases.*

3 Describe your hypothesis. Use the description field to provide some background to your assertion. You don't need to add any evidence here – you'll do that on the next screen.

4 Use the drop down menu to add a **Tag** to your hypothesis. This will help other people find it.

5 Click **Continue** to open the evidence modal.

6 Add your first piece of evidence. Provide a URL, and explain how this evidence supports or refutes your hypothesis. You can only add one piece of evidence at a time, but you can always add additional pieces later.

7 Use the **stars** to rate the quality of this piece of evidence.

Not sure how to assess the quality of your evidence? Read the **Evaluating evidence** section on the next page.

8 Click **Submit**.

9 To add more evidence, click **+Add Evidence** on your hypothesis card.

Rating evidence

Each hypothesis has a Weight of Evidence score (WOE) based on the quality and quantity of evidence it has.

Evidence quality is determined by contributor ratings — higher-rated evidence counts for more in the Weight of Evidence metric than lower-rated evidence.

By rating evidence you improve the quality of the data being collected at your event, and you contribute to the collective intelligence being gathered on the platform.

The rating system is subjective and will reflect the kinds of people contributing to the platform, including their backgrounds, subject matter expertise, and information literacy.

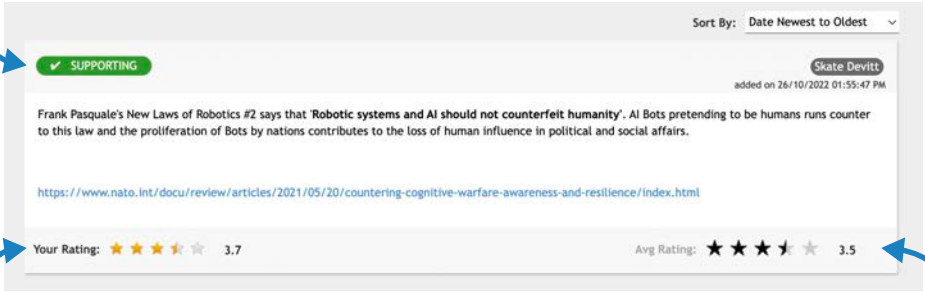
The quality of the data collected depends on who is invited to participate and how they are helped to use the platform including how safe they feel to express their opinions.

Evaluating evidence

Choose a star rating for pieces of evidence based on these dimensions of information quality. How well evidence supports or refutes a hypothesis is part of how you judge relevance and informativeness.

Dimension of Information Quality	Contributing Factors for Each Dimension
Credible	Authentic, Believable, Reliable, Trustworthy, Authoritative
Accurate	Correct, True, Valid
Relevant	Contextual, Appropriate
Comprehensive	Complete, Objective, Neutral, Balanced
Recent	Current, Up-to-date
Informative	Understandable, Useful, Usable, Good

Supporting evidence increases WOE, refuting evidence decreases it



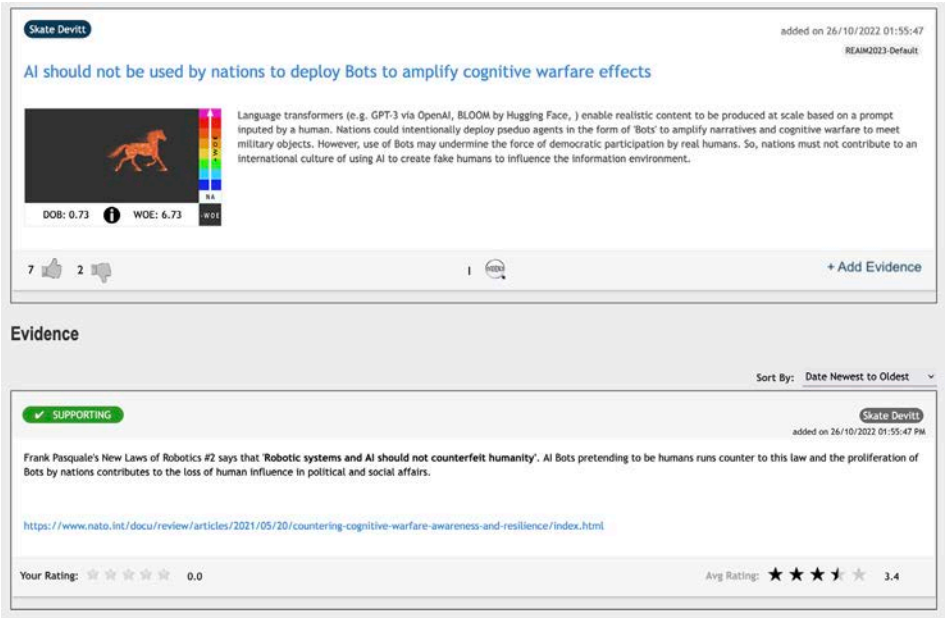
Your rating here

Contributes to the average rating here

How to rate evidence on BetterBeliefs

1 Open a hypothesis by clicking its title, then choose a piece of evidence to evaluate.

2 Click the stars to rate the evidence. Remember to check whether it's supporting or refuting.

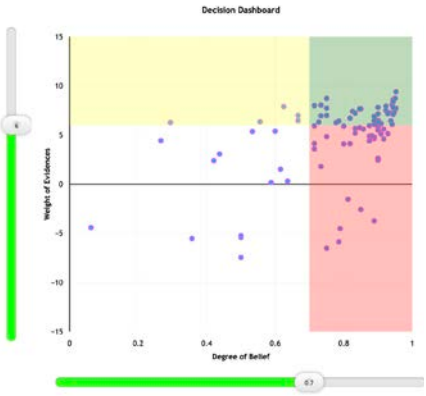


Event Data & Decision Dashboard

Once the event is underway, each participant can see how the hypotheses compare with one another by clicking **Event Data** at the top of the screen and viewing the Data & Decision Dashboardapp.betterbeliefs.com.au/makedecision.

The Data & Decision Dashboard provides a visual representation of hypotheses of which hypotheses are backed by quality evidence and strong support, which are contentious, and which fall short of belief or evidence.

***Note:** The Event Data & Decision Dashboard is only available on larger screens, not phones.*



GREEN - high belief, high evidence

Ideas that have a lot of evidence for them and a high degree of belief.

Action: *Consider implementing these ideas.*

YELLOW - low belief, high evidence

Ideas which are not believed, despite being supported by evidence.

Action: *Enact top-down measures, such as education campaigns, to raise Degree of Belief in line with the evidence or seek out disconfirming evidence.*

WHITE - low belief, low evidence

Ideas that are poorly formed, do not have enough evidence, do not have enough belief, or are too contentious to warrant action. White ideas fall into two categories:

Poorly formed hypotheses:

These are hypotheses that are ungrammatical (e.g posed as questions), too complex, off topic, naive, incoherent, repetitive or otherwise challenging to agree with.

Action: *No action or Reformulate hypothesis or Delete hypothesis.*

Contentious ideas:

These are controversial ideas with beliefs for and against them, and evidence for and against them.

Action: *In response to contentious ideas, you should:*
- enact research programs and evaluation processes to investigate points of contention,
- consider prohibitions or limits on these ideas until further consultation and research is undertaken, or
- reformulate the hypotheses, taking criticism into account.

RED - high belief, low evidence

Ideas that are highly believed in, but have poor evidence. These ideas get a red warning light – more work is needed. Red ideas fall into two categories:

False beliefs:

These hypotheses have a large amount of evidence, but it does not support the hypothesis. This can be due to high quality refuting evidence, a lack of high quality supporting evidence, or both.

Action: *Investigate and address reasons for the high Degree of Belief including misinformation campaigns*

Insufficient evidence:

These hypotheses have only a small amount of evidence, or the evidence has not been rated, so more engagement is needed. If further evidence supports the hypothesis, it will move into the green area. If further evidence does not support the hypothesis, it should be treated as a false belief.

Action: *Increase engagement to generate more evidence and/or ratings.*

Note: *If an event is short, then participants may not have enough time to add sufficient evidence. Event organisers should allow participants more time to get their hypotheses out of the 'red zone'.*

Using the Data & Decision Dashboard

To open the Data & Decision Dashboard, click **Event Data** in the top menu

> ***Note:*** *The Decision Dashboard can't be displayed on phones or tablets.*

↓

Choose the date range and event tags, then click **Load**.

↓

Once the graph has loaded, scroll down to filter hypotheses by minimum number of contributors.

> *A 'contributor' is someone who has added evidence, rated evidence, or voted the hypothesis up or down. The more contributors to a hypothesis, the more robust the findings.*

↓

If you want to adjust the WOE or DOB criteria for each area of the graph, use the sliders.

> *If you're making decisions with higher risks, set the* ***Weight of Evidence*** *threshold higher.*
>
> *To lower the risk of pushback when implementing decisions operationally, set the* ***Degree of Belief*** *threshold higher. A high DOB means the stakeholders have more confidence in the ideas.*

Download a report

You can download a report containing a filtered set of your event data from the **Data & Decision Dashboard** page.

Scroll down to the **Download What You Are Seeing Above** section, choose which quadrants to include in your report, then click **Download.**

The report is saved as an .xlsx file, and can be opened in any spreadsheet software.

Need help?

For help using the BetterBeliefs platform at REAIM 2023, get in touch with our support team.

Call: **+61 403 761 076**
Email: **info@betterbeliefs.com.au**
Chat: **betterbeliefs.com.au/reaim**

The BetterBeliefs REAIM 2023 support team

Kate Devitt

Alok Chowdhury

Saul Devitt

GLOSSARY

Add hypothesis is a button on BetterBeliefs that lets you add an idea to the platform.

Add evidence is a button on BetterBeliefs that lets you add supporting or refuting evidence to the platform. You will need to include a weblink to the evidence.

BetterBeliefs is an online social platform available at REAIM 2023 for sharing and evaluating ideas, breaking down the silos between different stakeholders and using collective intelligence to build knowledge for the responsible use of AI in the military domain.

DOB stands for Degree of Belief. The DOB metric is determined by the proportion of upvotes and downvotes on a hypothesis and can change over time.

An **event** is a space in BetterBeliefs created to support an external event. Events provide a common experience for all participants.

Event data is a tool that allows participants to select event hypotheses for analysis by date and tag and download hypotheses and evidence as a .xlsx file

Evidence is information that supports or refutes a hypothesis.

An **evidence item** is a single piece of evidence. Each piece of evidence must include a weblink, a justification, a star rating, and a classification as either supporting or refuting evidence.

An **evidence weblink** is a website address (URL) that contains information in support of or refuting a hypothesis.

A **hypothesis** is a proposition that a person could either agree or disagree with.

To **justify** is to offer reasons for why an assertion is correct or plausible.

A **platform** is an online environment for participatory engagement.

REAIM Summit is the Responsible AI in the Military Domain Summit, held at The Hague.

Sort by is a drop down menu in BetterBeliefs that allows participants to view hypothesis in a list ordered by date, degree of belief, strength of evidence, or number of evidence items.

Search is a search box in BetterBeliefs that allows participants to find hypotheses by searching for terms.

Star ratings are given to evidence items to rate their quality.

Tags are labels which categorise hypotheses by topic. Participants can use tags to filter hypotheses.

'Thumbs up' and **'Thumbs down'** icons are voting buttons that allow participants to vote on whether they support or oppose hypotheses. These votes create the Degree of Belief (DOB) metric.

WOE stands for Weight of Evidence. The WOE metric is determined by star ratings, number of evidence items and the degree to which evidence items support or refute a hypothesis.WOE can change over time.

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THE END OF WAR PROJECT

Better Beliefs

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