QUICKSCAN - CANVAS Automated Validation of Open-Source Code

NAME: Automated Validation of Open-Source Cod

DATE: May 15, 2026 9:00 PM

DESCRIPTION OF TECHNOLOGY

This project aims to advance automated validation techniques by incorporating more dynamic and integrated methods. By identifying current limitations and exploring improvements, this research seeks to better support developers in integrating secure and reliable software components.

HUMAN VALUES

The technology helps developers by making it easier to check for secure and high-quality software, saving time and reducing mistakes. However, it might make developers feel less like experts if they rely too much on it. If seen as a tool to support their work, it can boost their confidence and help them deliver better software.

TRANSPARENCY

The technology aims to be transparent by providing clear documentation and explanations about how it works, including its goals, processes, and intended outcomes. Users and stakeholders can understand its behavior through access to user guides, technical documentation, and reports on its validation processes.

IMPACT ON SOCIETY

The problem this project addresses is the lack of reliable automated validation for open-source and third-party code, which poses risks to software security, compliance, and quality. This issue affects developers and organizations relying on open-source software for modern development. Solving this problem will ensure safer, high-quality software, benefiting both users and developers while reducing vulnerabilities and enhancing trust.

STAKEHOLDERS

- Sue B.V.

SUSTAINABILITY

The technology considers energy use by streamlining validation tasks to reduce computation time and resource use.

HATEFUL AND CRIMINAL ACTORS

The automated validation technology could potentially be misused to bypass compliance checks by manipulating or masking code during the validation process, enabling malicious software or unauthorized changes to go undetected. Additionally, attackers might use the validation framework itself to identify vulnerabilities in open-source code for exploitation

DATA

Yes, the technology recognizes that data has limitations, such as being incomplete, biased, or subjective. It uses standardized checks to reduce errors, but it cannot capture the full complexity of real-world situations. To address this, the technology should work with varied datasets, be regularly updated, and clearly communicate its limits so users can make informed decisions.

FUTURE

If widely adopted, the technology could standardize software validation, improving security and quality across industries.

PRIVACY

The technology itself does not directly register personal data, as its focus is on validating open-source and third-party code. However, depending on its implementation, it might process metadata related to developers, such as names, email addresses, or contributions from version control systems, which could be considered personal data.

INCLUSIVITY

This technology may have built-in biases due to the sources of data it relies on, such as open-source repositories, which might reflect historical, cultural, or regional biases. For example, the tools and frameworks evaluated may favor widely used programming languages or environments, potentially overlooking less common but equally valid approaches

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HUMAN VALUES

How is the identity of the (intended) users affected by the technology?

To help you answer this question think about sub questions like:

- If two friends use your product, how could it enhance or detract from their relationship?
- Does your product create new ways for people to interact?…

TRANSPARENCY

Is it explained to the users/stakeholders how the technology works and how the business model works?

- Is it easy for users to find out how the technology works?
- Can a user understand or find out why your technology behaves in a certain way?
- Are the goals explained?
- Is the idea of the technology explained?
- Is the technology company transparent about the way their…

IMPACT ON SOCIETY

What is exactly the problem? Is it really a problem? Are you sure?

Can you exactly define what the challenge is? What problem (what 'pain') does this technology want to solve? Can you make a clear definition of the problem? What 'pain' does this technology want to ease? Whose pain? Is it really a problem? For who? Will solving the problem make the world better? Are you sure? The problem definition will help you to determine…

STAKEHOLDERS

Who are the main users/targetgroups/stakeholders for this technology? Think about the intended context by…

When thinking about the stakeholders, the most obvious one are of course the intended users, so start there. Next, list the stakeholders that are directly affected. Listing the users and directly affected stakeholders also gives an impression of the intended context of the technology.

…

SUSTAINABILITY

In what way is the direct and indirect energy use of this technology taken into account?

One of the most prominent impacts on sustainability is energy efficiency. Consider what service you want this technology to provide and how this could be achieved with a minimal use of energy. Are improvements possible?

HATEFUL AND CRIMINAL ACTORS

In which way can the technology be used to break the law or avoid the consequences of breaking the law?

Can you imagine ways that the technology can or will be used to break the law? Think about invading someone's privacy. Spying. Hurting people. Harassment. Steal things. Fraud/ identity theft and so on. Or will people use the technology to avoid facing the consequences of breaking the law (using trackers to evade speed radars or using bitcoins to launder…

DATA

Are you familiar with the fundamental shortcomings and pitfalls of data and do you take this sufficiently into…

There are fundamental issues with data. For example:

- Data is always subjective;
- Data collections are never complete;
- Correlation and causation are tricky concepts;
- Data collections are often biased;…

FUTURE

What could possibly happen with this technology in the future?

Discuss this quickly and note your first thoughts here. Think about what happens when 100 million people use your product. How could communities, habits and norms change?

PRIVACY

Does the technology register personal data? If yes, what personal data?

If this technology registers personal data you have to be aware of privacy legislation and the concept of privacy. Think hard about this question. Remember: personal data can be interpreted in a broad way. Maybe this technology does not collect personal data, but can be used to assemble personal data. If the technology collects special personal data (like…

INCLUSIVITY

Does this technology have a built-in bias?

Do a brainstorm. Can you find a built-in bias in this technology? Maybe because of the way the data was collected, either by personal bias, historical bias, political bias or a lack of diversity in the people responsible for the design of the technology? How do you know this is not the case? Be critical. Be aware of your own biases.…

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