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Semantic Search of Related Patterns in Source Code

The full text is currently only available in the Deutsch version. A translation will follow.

Archived. This content is no longer updated. It remains available for reference.

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The analysis of source code for security-critical elements can be supported by tools that search for certain predefined patterns in program code and, in the event of hits, make statements, for example that a code fragment most probably represents a certain functionality or appears to be vulnerable to certain attack vectors. Implicitly, however, such a search excludes all unknown code parts and is therefore inherently incomplete.

In this project, the recognition of semantic relationships in code will be used to automatically identify further code fragments that represent a similar functionality. The result could help to better classify the purpose of unknown code parts and would thus significantly support the safety-critical analysis of source code.