



Lehrstuhl für Sicherheit in der Informatik
Prof. Dr. Claudia Eckert



Announcement: Student job in cooperation with Fraunhofer AISEC, Garching

Support for Static Source Code Analysis Tooling

Motivation and Task Description

We are looking for a student to support us in developing tooling to analyze source code to find security vulnerabilities in C/C++.

First step is to integrate several open source tools into one toolchain with a common output. This output structure has to be defined, SARIF¹ is a possible candidate. The output format should be easily integrable into common IDEs. The tooling results should be compared, e.g., to delete equal findings. The tooling should support incomplete code and compilable code.

Additionally, tooling implemented at AISEC using the CPG^{2,3} should be integrated. The development of our tooling is an ongoing process and we are looking for a self-motivated student with own ideas for improvement.

Requirements

- Programming skills: python, optional Java/Kotlin
- Basic knowledge about secure coding in C/C++
- Practical experience with creating plugins for IDEs (optional)
- Basic knowledge about program analysis / compiler optimization (optional)
- Practical experience with LLVM/clang (optional)
- Experience with graph databases (e.g., neo4j, gremlin) (optional)

Contact

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¹ https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=sarif

² <https://github.com/Fraunhofer-AISEC/cpg>

³ <https://github.com/Fraunhofer-AISEC/cpg-neo4j>