CISPA – Helmholtz Center i. G. GmbH
is now looking for a

STUDENT ASSISTANT
(up to 16 hours per week)

The CISPA - Helmholtz Center i. G. GmbH is currently in the transformation process of a university scientific institution into an independent research center, with the aim of becoming a member of the Helmholtz Association. The company will be expanded in the medium term from currently 120 to 600-800 employees here in Saarbrücken.

Project Description:

Current processor architectures involves a wealth of features like caches and speculative execution that, while invisible to the software executing on the platform, can affect the system behavior in many aspects. Ever increasing complexity of modern processors also increases the chance of having undetected bugs in their design, which can be later used to compromise the security of software executing on these processors. The well known Melt-down attack is just one example showing how design errors can be exploited to break the system security.

Spotting such bugs is the goal we set ourselves in this project. We aim at developing an automated test-case generation framework which can exercise processors architecture to check their correctness and security.

Your task:

1. Implementing a symbolic execution engine for a simple loop-free language,
2. Integrating the tool into a theorem prover (i.e. implementing the tool using the meta language of the prover).

Your profile:

- Functional programming skills (using SML)
- Basic theorem proving skills (using either HOL4 or Coq)
- Ability to work independently and initiative
- Motivation and reliability
- Fluent English

What we offer:

- Motivated international team
- Interesting and challenging job
- Flexible working hours (10 hours minimum)

Payment is based on the „Regulations governing the employment of academic and student assistants".

https://www.uni-saarland.de/fileadmin/user_up-load/Campus/Service/Dienstleistungen_Verwaltung/personalamt/Dokumente_Wiss/Hinweis_Hiwis.pdf

APPLY NOW

Payment depends on qualification and assignment of tasks. Severely handicapped people with equal qualifications are given preference.

If this challenging task is of interest to you, we look forward to receiving your application. Please apply with the usual complete application documents (complete CV, certificates, references if available) – summarized in one PDF document by e-mail to Hamed Nemati: **hamed.nemati@cispa.saarland**

Saarland Informatics Campus **SIC** | **UNIVERSITÄT DES SAARLANDES**

CISPA HELMHOLTZ-ZENTRUM i. G.