Open Postdoctoral Research Position at Max Planck Institute & Saarland University

Most code is now written as a collaboration between humans and code-assistive technologies, which are based on foundation models, trained on text and source code. How can we ensure that this collaboration is most effective? In this ambitious project, we will develop methods based on machine learning, cognitive science, and software engineering that improve the effectiveness of human-AI collaboration in the domain of code generation. An example of a concrete research question of interest is how to adapt the model output based on inferences about the user's cognitive state. We will also validate our developed methods via large-scale crowdsourced human experiments as well as in-person studies with a more focused population of programmers.

Ideal candidate:
We are looking for a Postdoctoral Researcher to lead this project. Suitable candidates will have strong computational backgrounds, and have research experience with 1) large language models for text and/or code generation and 2) running human user studies. Experience with analyzing and modeling brain imaging data (EEG and/or fMRI) is beneficial, but not required. Fluent communication in written and spoken English is required.

Team:
We are a team of computer scientists and cognitive scientists who are working closely together. Specifically, the faculty and groups involved in this project are:

- Sven Apel, Chair of Software Engineering, Saarland University
- Adish Singla, Machine Teaching Group, Max Planck Institute for Software Systems
- Mariya Toneva, Bridging AI and Neuroscience Group, Max Planck Institute for Software Systems

The candidate will have the opportunity to extensively interact with all groups, collaborate on exciting relevant projects (e.g. see our recent joint preprint for an example), and mentor PhD, masters, and bachelors students. The position is in Saarbruecken, Germany. The official language of this collaboration is English.

How to apply:
Please send the following to the PIs (**apel@cs.uni-saarland.de, adishs@mpi-sws.org**, **mtoneva@mpi-sws.org**) by **Jan 31, 2025** AoE:
- Updated CV
- List of your 2-3 most relevant publications or preprints
- A brief research statement on what kind of related research directions you would like to work on (1-2 pages)
- A brief statement on why you're interested in this position (1-2 paragraphs)
- Contact information of 2 references. References will be requested at a later date, only once an initial screening is completed.
- Preferred start date and duration

Mailing lists:
Wiml (women in machine learning) - done
connectionists@cs.cmu.edu - done
ML-news - done
seworld@sigsoft.org – Sven?