We are looking for people interested in joining the Software Lab as a PhD student. The Software Lab conducts research at the intersection of software engineering, programming languages, machine learning, and security, with a focus on tools and techniques for constructing reliable, efficient, and secure software. General areas of research include:

- Machine learning models to reason about software
- Static and dynamic program analysis
- Test case generation

For example, projects to be worked on may include but certainly are not limited to:

- Machine learning to detect software bugs
- Tracking warnings by code analysis tools across code changes
- Analyses to identify and prevent Node.js security problems

We focus on techniques that apply to real systems. In the past, we have developed analyses that find bugs and other problems in widely used Java, C, and JavaScript code bases, such as the Java standard library, the Chrome browser, and various popular web sites.

The Software Lab is lead by Michael Pradel, who has joined University of Stuttgart in September 2019. Applicants will have the unique chance to work in and shape a young, ambitious, and international research group. The lab is embedded into an excellent environment for research in computer science, with University of Stuttgart being one of the top-ranked universities in Germany. The city of Stuttgart is a cultural and intellectual center, surrounded by beautiful hills, and it has been ranked as one of the cities with the highest quality of life in the world.
- Are persistent and willing to work several years of your life on a project that many people will never understand.
- Like to present your work to academic audiences, e.g., at international conferences, and to non-academic audiences (to increase the number of people that understand your work).

To better understand our research and whether it may fit your interests, please read some recent papers by our lab before you apply.

Additional Information

The goal of applicants should be to pursue academic research at the highest level and to obtain a PhD degree within four to five years. The working language of the lab is English. Knowing German is not required (but helpful to enjoy life outside of the lab). PhD students at University of Stuttgart have the opportunity to take courses but are not required to do so. The positions will be filled as soon as we find suitable candidates. PhD students are paid a competitive salary (according to TV-L E13 level).

University of Stuttgart has a large interest in increasing the number of female researchers, and hence particularly encourages female candidates to apply. Applicants with a degree of disability of 50% or more will be preferred in case they are otherwise equally qualified to the other candidates. It is generally possible to work part time.

How to Apply?

Please send your application, including CV and transcripts of your studies, to software.lab.phd@gmail.com.