Open Ph.D. Position (TVL-E13/100 %) as part of the industry-sponsored Graduate School Intelligent Methods for Test and Reliability (GS-IMTR) at the University of Stuttgart

GS-IMTR, which is a joint endeavor between the University of Stuttgart and Advantest, an industry leader in automatic test equipment, focuses on topics such as design for test and diagnosis; post-silicon validation; test generation and optimization; robust device tuning; system-level test; lifetime test and reliability management; and test automation. Further information can be found under https://www.gs-imtr.uni-stuttgart.de/.

The position to be filled is located at the Institute of Smart Sensors at the University of Stuttgart (https://www.iis.uni-stuttgart.de/). We are looking for candidates holding a Master's degree (or equivalent) in electrical engineering, computer science, physics, or related subjects interested in pursuing research as part of GS-IMTR's project **P14: Intelligent Sensing and On-Chip Learning for Silicon Lifecyle.**

Here, project P14 explores the challenges that silicon lifecycle management introduces into the chip design process and, more importantly, the opportunities that it brings to the area of test. In particular, we will focus on the possibilities associated with digital on-chip sensors combined with edge AI in the tester to collect and process the data very efficiently at run-time. Further, we will also investigate the possibility of on-chip online learning on the collected data. The project also involves the developing of a test program for a state-of-the-art data converter, including the collection and processing of statistically relevant data.
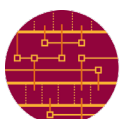
The candidates should have a strong background in machine-learning and FPGA programming and be familiar with mixed-signal integrated circuit design.

What we offer:
- The possibility to conduct cutting-edge research as part of GS-IMTR
- Strong interactions with the company Advantest throughout the project
- A stimulating research environment with more than 20 Ph.D. students working on a broad range of IC design topics for various applications in smart sensing for biomedical and materials science applications as well as quantum technologies
- The possibility of obtaining a Ph.D. degree from one of Germany's leading technical universities
- Access to all state-of-the-art IC design tools
- Large experience in IC manufacturing
- A fully equipped mixed-signal lab for chip characterizations
- Access to state-of-the-art cleanroom manufacturing technologies via a strong collaboration with IMS CHIPS in Stuttgart
- Collaborations with leading industrial and academic partners
- Competitive annual gross salary – depending on experience level – of >45.000€

What we expect:
- The ability to work in a team
- Flexibility and dedication
- Strong motivation to introduce innovations into a current research topic
- Experience in machine learning
- Experience in FPGA programming
- Experience in analog and mixed-signal integrated circuit design

GS-IMTR
Graduate School
Intelligent Methods for Test and Reliability

- Strong background in microelectronics or a similar field of study
- Curiosity to expand your knowledge into interesting applications
- Very good knowledge of the English language

Candidates should send their application electronically by e-mail to: application@iis.uni-stuttgart.de. The application in English or German should include a CV, a short motivation letter, and a transcript of records of the Bachelor's and Master's degrees. An abstract of the Master's or Ph.D. thesis may also be included.