Dependable Embedded Systems Lab (DES Lab)

Graz University of Technology, Graz & Silicon Austria Labs, Graz

Modern embedded systems provide critical every-day services in applications as diverse as Smart Cities, Smart Production, or Connected Cars. Regarding their hardware and software, "dependability" summarizes aspects such as safety, security, real-time, and maintainability that allow the users to put trust into their continuous service. However, today's approaches to design and implement such embedded systems do not guarantee dependability. Thus,

the Embedded Automotive Systems Group (EAS) at TU Graz offers the position of

1 University Assistant with Doctorate - PostDoc (f/m/d)
in the field of Dependable Embedded Systems Design
from Nov 1, 2020 – Dec 31, 2023, 40h/Week, at TU Graz Campus Inffeldgasse, Graz, Austria.

The Dependable Embedded Systems Lab (DES Lab) is a cooperation project between Graz University of Technology and Silicon Austria Labs, Graz. The prospective candidate is expected to pursue basic research with a strong focus on *compositional software design*. An open question in this area is, for example, how to handle side effects between dynamically composed software modules or guarantee their compatibility and correct behavior/interaction with regard to functional and non-functional aspects.

The position is integrated into the Embedded Automotive Systems Group (Prof. Dr. Marcel Baunach) which focuses on embedded processors and operating system architectures. Thus, the candidate is expected to support these research directions in order to further shape and execute the group's research agenda. This includes collaboration with project partners and allied research groups, the scientific community, and experts or scientists from industry and academia. It also includes teaching duties and the co-supervision of PhD students. In general, there is also the possibility to pursue a habilitation.

Requirements: Completed doctoral studies with very good grades in Information/Computer/Software Engineering, Computer Science, Information Science, Telematics, Electrical Engineering, or related studies.

Your profile:

Candidates should have experience and very good knowledge in several of the following areas:

- architecture of embedded operating systems or basic software
- formal methods and verification
- model based software design
- formal specification and integration of non-functional requirements and properties
- design, development, and verification of hardware and software for modular embedded systems

Candidates should have:

- outstanding academic performance, including a topic-specific publication record
- very good proficiency in written and spoken English (German or the willingness to learn it is appreciated)
- high motivation, self-initiative, and sense of responsibility
- ability to work independently in an interdisciplinary and international team
- willingness to do scientific research, publish research results, and support open-source software
- willingness to teach courses and co-supervise PhD/MSc/BSc students
- experience with scientific projects and international cooperation

Reference number: 4480/20/009
Deadline: 30 September 2020

Salary: €3,889 gross (14x/year) according to level B1 of the collective agreement for university employees.

Application: Please send your motivation letter, curriculum vitae, publication record, certificates of graduation, supporting documents and links regarding professional activities to **dekanat.etit@tugraz.at**, quoting the **reference number 4480/20/009 no later than 30 September 2020**. Please refrain from generic letters of application and ensure that your application makes direct reference to the topic of the advertised position, and briefly but clearly describe in your letter of motivation how you would like to contribute your professional skills to the project and the working group.

TU Graz aims to increase the diversity in the research groups and therefore expressly invites all people with relevant qualifications to apply. Applicants must not to be discriminated in personnel selection procedures on the grounds of gender, ethnicity, religion, age, sexual orientation (anti-discrimination).

Contact: Prof. Dr. Marcel Baunach, Institute of Technical Informatics, baunach@tugraz.at