CompEAS – Compositional Embedded Automotive Systems

Graz University of Technology, Graz – Elektrobit Automotive GmbH, Erlangen – Pro2Future GmbH, Graz

Smart mobility is considered one of the most disruptive technologies in the coming decades. The CompEAS project is dedicated to application-oriented basic research on the required computing platforms: long-term interoperability of vehicles, continuous maintenance and flexible modifications of embedded software and hardware require a paradigm shift from static design to dynamic composition at all system layers.

The Embedded Automotive Systems Group (EAS) at TU Graz and Pro2Future GmbH jointly offer research positions for PhD candidates (f/m/d) in the field of Compositional Embedded Automotive Systems immediately, full time, at TU Graz or Pro2Future GmbH, Campus Inffeldgasse, Graz, Austria.

The new positions within this cooperation about compositional embedded automotive software will focus on (1) model based development, maintenance and portability of basic software, (2) formal specification and integration of non-functional requirements into application and basic software, and (3) dynamic composition of software modules at runtime. The candidates will play a major role in shaping and executing the project’s research agenda. This includes collaboration and knowledge transfer among CompEAS partners, allied research groups, the scientific community, and experts or scientists from industry and academia. We offer the successful candidates to work in an international team of researchers, and the opportunity to pursue a PhD at TU Graz under the supervision of Prof. Dr. Marcel Baunach.

Requirements: Completed Master or Diploma at university level with very good grades in Information/Computer/Software Engineering, Computer Science, Information Science, Telematics, or related studies.

Your profile:

Candidates should have experience in several of the following areas:

- hardware and software development for embedded systems
- architecture of operating systems or basic software
- model based software design
- formal methods and verification
- automotive computing systems

Candidates should have:

- very good proficiency in written and spoken English (German or the willingness to learn it is appreciated)
- very good study results
- high motivation, self-initiative, and sense of responsibility
- ability to work independently in an interdisciplinary and international team
- readiness for extended research stays at our partners abroad
- willingness to do scientific research, publish research results, and support open-source software
- willingness to complete a dissertation at Graz University of Technology

Experience with scientific projects, international cooperation and scientific publications are an advantage.

Salary: €2,929 gross (14x/year) according to level B1 of the collective agreement for university employees.

Application: Please send your motivation letter, CV, certificates of graduation, supporting documents, and links regarding professional activities to baunach@tugraz.at, quoting the reference number EAS20/91 until December 13, 2020. A first selection of applicants will already take place on December 1. Please note that all project partners will screen all applications during the hiring process.

Please ensure that your application makes direct reference to at least one or more topics listed above by describing your interests for future research. Briefly but clearly state in your letter of motivation how you would like to contribute your professional skills to the project and the working group. Generic letters of application will be rejected immediately.

The project partners aim to increase the diversity in the project team and therefore expressly invite 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
The partners:

TU Graz and the EAS Group – Graz University of Technology, Austria, was founded in 1811, counts over 3,500 employees and about 16,400 students. Seven departments offer study programmes in technical and scientific disciplines and doctoral training is organized in English-speaking doctoral schools. The Embedded Automotive Systems Group (EAS) is part of the Institute of Technical Informatics and has a strong focus on embedded operating systems and microcontroller architectures. The international team is active in various research projects like the Lead Project “Dependable IoT” or the “Dependable Embedded Systems Lab”.

Elektrobit Automotive GmbH – Elektrobit (EB) is an award-winning and visionary global supplier of embedded and connected software products and services for the automotive industry. As a leader in automotive software with over 30 years serving the industry, EB’s software powers over one billion devices in more than 100 million vehicles and offers flexible, innovative solutions for car infrastructure software, connectivity & security, automated driving and related tools, and user experience. EB is a wholly owned subsidiary of Continental.

Pro²Future GmbH – Products and Production Systems of the Future – is a COMET competence center that attempts for next generation products and manufacturing machinery with embedded cognitive capabilities. It is a joint effort of world leading Austrian industrial enterprises and the nation’s top scientific institutions in ICT and Production Engineering: Johannes Kepler University Linz, Graz University of Technology and Profactor GmbH. Furthermore, it is endorsed by the Provinces of Upper Austria and Styria, Austria’s strongest regions in industrial leadership. Pro²Future operates three research sites in Linz, Graz and Steyr.