Fully funded PhD-Research Position on Modular Automation Control Software Design

A fully funded research position (full-time, 40 hours/week) at the PhD-student level is offered in the group for Advanced Mechatronic Systems at the Automation and Control Institute (ACIN) of the Vienna University of Technology.

Project goal: This PhD-project aims towards the development of novel design and engineering methods for industrial automation systems. Approaches as Service-Oriented or Skill-based automation, but also hierarchic design of classic industrial automation systems, as well as improved software engineering methods (component-based design, design for testability, simplified commissioning) are in focus of this PhD-project, which is performed in conjunction with a world-leading expert in automation system engineering in the field of production systems.
For this, existing development approaches and so-called typicals (development templates) shall be analyzed together with the industry partner. Based on the requirements of the industry partner novel software engineering and component-based design solutions and associated best practices shall be developed, tested and evaluated on real-world examples.
Findings on improved development and design practices shall be implemented in the predominant automation standards IEC 61131 and IEC 61499, or if necessary extensions to these standards shall be proposed and impacts on existing programs shall be estimated and published in relevant conferences, journals, and proposed to the standardization boards.

The starting date is planned as soon as possible, depending on the availability and preference of the successful candidate.

Requirements: We are looking for candidates holding an MSc degree in Electrical Engineering, Informatics, Mechanical Engineering, or equivalent, preferably with a strong background in at least one area of automation and control systems, electronics, software engineering, and embedded systems design.
Good fundamentals, excellent grades, and interest in programming and automation system development and construction are prerequisites. Motivation to pursue novel research in close collaboration with well-reputed international industry partners and research universities is essential. Thus, good communicational skills, fluency in English and/or German, and a goal-oriented work attitude as member of a dynamic international research team are expected.

Conditions of employment: The appointment will be for a period of up to four years. As an employee of the TU Vienna you will receive a competitive salary as well as an excellent secondary benefits package, including a flexible work week, health insurance, social security, and additional company retirement benefits. Salary and benefits are in accordance with the Collective Labor Agreement for Austrian universities. The annual gross salary of a research assistant (PhD student) in the first year starts at **€ 40.103**, and grows to **€ 47.544** in the 4th year of the appointment. We offer the opportunity to perform scientifically challenging research in a multi-disciplinary research environment, with a group of international researchers and strong collaboration with industrial, governmental, and university research laboratories. Further career growth in all teaching, research, and industrial applications is provided.

How to apply: To apply for this position, please email your application in pdf-format to schitter@acin.tuwien.ac.at including a

- a cover letter with a statement that gives your motivation for this position
- a full CV, and your grades
- an abstract of your MSc thesis and a list of your publications (if any), and
- the names and contact information of two professional references.

The position will remain open until filled, but an early date for application is preferred and encouraged. For more information about the ACIN department and Vienna University of Technology, please visit our website https://www.acin.tuwien.ac.at/en/intelligente-mechatronische-systeme-ams and http://www.tuwien.ac.at.