Interdisciplinary Project
Stand: 08.06.2017

The Fraunhofer Institute for Building Physics, Branch Nürnberg, Working Group Technical Building Systems is offering a Interdisciplinary Project with the topic:

„Automated Generation of Control Functions from Formally Specified Control Logic in Building Automation Systems“

The Fraunhofer Institute for Building Physics IBP focuses its work on research, development, testing, demonstration and consulting in the various fields of building physics. It is internationally known and connected to companies and academia. The work group Technical Building Systems focusses on integrated solutions of building envelope, technical equipment and operation strategies. Main goal is to provide maximum comfort to occupants in buildings, while keeping costs reasonable and minimizing the use of energy.

Abb. 1 – BuildingControlLib: A Modelica library for modelling and simulation of standardised control functions from Building Automation.

The research group focusses on information modelling techniques following an ontology-based approach using semantic web technologies such as RDF, OWL and SPARQL. The approach allows to model and specify information on building elements, technical equipment, building automation systems as well as control strategies. This information can also be used to automatically generate tailored control functions for the respective equipment and or building.

Job description:
- Investigate the State-of-the-art for automated code generation tools
- Develop based on an existing information model a methodology to automatically generate executable control functions from the information model;
- Demonstration of the feasibility of the developed methodology in an experimental setup or use case.
Your profile:

- Studies in engineering, computer science or similar on a masters level;
- Solid knowledge of Python or Java programming language;
- Ideally some background on the Semantic Web technology stack (RDF, OWL, SPARQL);
- You are a team player and you have a goal oriented working attitude. You work is considered to be precise and you are able to document your work and results in a structured manner;
- You are fluent in English or German.

Ideally you have demonstrated all or one of these skills in previous projects.

What you can expect:

Fraunhofer is Europe’s largest application-oriented research organization. Our research efforts are geared entirely to people’s needs: health, security, communication, energy and the environment. As a result, the work undertaken by our researchers and developers has a significant impact on people’s lives. We are creative. We shape technology. We design products. We improve methods and techniques.

Joining our young and dynamic team for your Interdisciplinary Project allows you to get deep insides into ongoing research projects and helps you to start your scientific career from sharpening your scientific profile.

General:

Contact:

Please send you application in the usual format including the identifier to:

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