Jobbnorge-ID: 121309
Søknadsfrist: Avsluttet
Nettside:
Omfang:
Varighet:

PhD Research Fellow in Technology with specialization in Mechatronics

The University of Agder invites applications for a full-time, fixed-term position as Research Fellow in Mechatronics for a period of three years, at the Department of Engineering Sciences, Faculty of Engineering and Science. The position is located in Grimstad, Norway. The starting date is negotiable.

The Faculty of Engineering and Science has a core group of more than 16 academic staff members in the field of mechatronics. The group is responsible for the BSc, MSc, and PhD programmes in mechatronics at the University of Agder and has an extensive network of Norwegian and international partner universities and university colleges.

Background for the position

Modern control systems often combine hybrid automata for integrating discrete behavior with continuous-time dynamics. The switched and impulsive systems allow for discrete transitions corresponding to the changes between the different state subspaces (set of modes) or impulsive jumps within particular mode of a hybrid system. Various application examples are in power systems with on-off switches, geared mechanical engines, digital hydraulics, programmable logic controllers employed for automation, and others. There is a growing need and correspondingly research on topics related to the formal design and verification methods for hybrid control systems.

Objectives

The objective of this PhD project is in (i) systematic analysis of the formal design and verification methods suitable for the hybrid control systems, (ii) elaboration of a methodology how to integrate verification tools and techniques in the design flow so as to improve the overall system reliability, (iii) selection, specification, and realization of application case(s) based on the standard and developed software and hardware. The elaborated solutions will be tested and demonstrated by taking advantage of the experimental facilities.

- Mechatronic Innovation Lab (MIL) in Grimstad.
- Norwegian Motion Laboratory (Motion Lab) in Grimstad.
- Partners in SFI WP3.

It is expected that the candidate will perform both the theoretical and experimental work using the available mechatronic resources of the above-mentioned facilities.

The successful applicant should hold a master’s degree in mechatronics, mechanical engineering or electrical engineering that covers the above fields. The position places great demands on the applicant’s capacity for independent goal-oriented work, ability to concentrate and attention to detail. Applicants will be assessed on the basis of academic background and results, and any previous research and development work. Relevant industrial experience, personal suitability and good teamwork skills will also be emphasized.

The following requirements must be met:

- Strong academic skills, experience and interest in the following areas: control design, hybrid systems and finite automaton, formal verification methods.
- Hands on experience with PLC and dSpace and programming skills in Matlab/Simulink, C/C++.
- Strong background in systems and control theory.

The following admission requirements apply to the PhD program:

- The average grade for courses included in the bachelor's degree (or equivalent) must be C (or equivalent) or higher;
- The average grade for courses included in the master's degree (or equivalent) must be B (or equivalent) or higher;
- The master's thesis (or equivalent) must have a grade B (or equivalent) or higher when the candidate is admitted to the PhD program;
- The successful applicant must have written and spoken English proficiency;
- The position places great demands on the applicant’s capacity for independent goal-oriented work, ability to concentrate as well as good communication and team-work skills in cooperation with research colleagues both inside and outside the university.

Applicants from some countries must document their English proficiency through one of the following tests with the stated results or better:

- TOEFL - Test of English as a Foreign Language with a minimum score of 550 on the Paper-based Test (PBT), or 80 on the Internet based Test (iBT)
- IELTS - International English Language Testing System, with a result of at least 6.0.

Please check this list to see if an English test is required. Possible categories of applicants from particular countries may be exempted.

Please note that the English test requirement applies to applicants from most countries according to the list mentioned above. No other tests will be approved, and certifications/statements cannot replace a test.

Admission requirements:

The candidate will be enrolled in the PhD programme in technology at the Faculty of Engineering and Science. The applicant must qualify for admission to this PhD Programme. More information about the program and a complete list of admission requirements to the PhD programmes can be found here.

Applications from applicants who already hold a PhD will normally not be considered.

Further provisions relating to the position as PhD Research Fellow can be found in the Regulations Concerning Terms and Conditions of Employment for the Post of Post-doctoral Research Fellow, Research Fellow, Research Assistant and Resident.

Short-listed applicants will be invited for interviews.

With the applicant's permission, UiA will also conduct a reference check before appointment.

Women are especially encouraged to apply.

The Norwegian public service is committed to reflecting the diversity of society, and the personnel policy of the University of Agder aims to achieve a balanced workforce. All qualified persons are therefore encouraged to apply for the position, irrespective of cultural background, gender, age or disability.

The successful applicant will have rights and obligations in accordance with the current regulations for the public service. Appointment is made by the University of Agder's Appointments Committee for Teaching and Research Positions.

The position is remunerated according to the State salary scale, salary plan 17.515, code 1017, salary grade 50 (NOK 430.500). A 2 % compulsory pension contribution to the Norwegian Public Service Pension Fund is deducted from the pay according to current statutory provisions.

Submit your application and CV online. Please click on the link **"Apply for this job"**. The following documentation should be submitted as attachments to the online application:

- Certificates and/or grades for all post-secondary education, up to and including the bachelor's level;
- Master's degree/higher degree certificate, with a summary of the courses/subjects included in the degree;
- Applicants with a foreign higher education must attach an official description of the grading system used at the issuing institution;
- Master's thesis (with a summary of approximately 1-2 pages if the thesis is not in English;
- Applicants who are required to document their English proficiency must submit their TOEFL or IELTS test results (these may be forwarded after the closing date);
- Summary or links to the applicant's scientific publications (if any).

Original documents must be presented for verification to the University of Agder together with the copies by the appointed research fellow upon arrival at UiA. Successful candidates will be asked, normally during the interview, to ensure that the issuing university submits documents in a sealed envelope directly to UiA or provide access to their documents online, which allows UiA to verify the authenticity of these electronic documents via a secure website hosted at the issuing university (contact person at UiA will be provided later for certain candidates).

The applicant is fully responsible for submitting complete documentation within the deadline. Without complete documentation we cannot, unfortunately, include you in the assessment process.

All documentation of education must be in the original language and in English, and the translation should preferably be from the issuing university. Additional documentation must be in English.

Closing date: 31.03.16

For further information please contact Associate Professor Michael Ruderman, e-mail michael.ruderman@uia.no.

In accordance with §25(2) of the Freedom of Information Act, applicants may request that they are not identified in the open list of applicants. The University, however, reserves the right to publish the name of applicants. Applicants will be advised of the University's intention to exercise this right.

Tilleggsinformasjon

Arbeidssted: