



JOB DESCRIPTION

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| Job Title: | Post-Doctoral Research Assistant |
| Department / Unit: | Computer Science |
| Job type | Professional Services |
| Grade: | RHUL 7 |
| Accountable to: | Dr. Matteo Sammartino |
| Purpose of the Post | |
| <p>The post holder will have an exciting opportunity to work on the EPSRC-funded "Verification of Hardware Concurrency via Model Learning" (CLeVer) project (EP/S028641/1). The project aims to develop a novel verification framework for concurrent hardware, which combines learning, testing and model-checking. Not all models are suitable for this purpose and hence a new specific class of models will need to be developed. Subsequently, learning and verification techniques for these classes need to be devised and tested in realistic case studies. We have an industrial partner, ARM, that will provide valuable guidance on the design and development of the aforementioned tasks.</p> | |
| Key Tasks | |
| <ul style="list-style-type: none"> • Investigate classes of models, amenable for learning and verification, capturing essential features of concurrent hardware systems • Develop efficient learning techniques and tools. • Develop testing and model-checking techniques, and integrate them with learning techniques to obtain tools that can automatically learn and at the same time verify models of hardware systems. • Evaluate the effectiveness of the techniques in industrial verification tasks. • Using initiative and creativity to identify areas for research, developing new research methods and extending the research portfolio. • Pilot, refine and optimise mathematical and computational techniques with limited supervision from the PI • Take a leading role in overcoming methodological problems that arise during the project lifespan, and keep the PI up-to-date with the project's progress • Formulate and test new hypotheses arising from the data, where relevant • Provide technical support for designated research area including databases and webpages, ensuring that all work is carried out in accordance with statutory and Royal Holloway regulations as appropriate. • Developing a body of outstanding quality publications in well-recognised peer reviewed outlets. • Presenting research and giving invited papers at national and international conferences. | |

- Communicating research findings to a non-specialist audience.
- Contribute to the preparation of grant applications, research presentations and publications as requested.
- Undergo continued personal professional development

Other Duties

The duties listed are not exhaustive and may be varied from time to time as dictated by the changing needs of the University. The post holder will be expected to undertake other duties as appropriate and as requested by their manager.

The post holder may be required to work at any of the locations at which the business of Royal Holloway is conducted.

Internal and external relationships

The following list is not exhaustive, but the post holder will be required to liaise with: Students, other members of staff within the school/department and University, academics in other institutions and, where relevant, industrial or professional contacts



PERSON SPECIFICATION

Details on the qualifications, experience, skills, knowledge and abilities that are needed to fulfil this role are set out below.

Job Title: Post-Doctoral Research Assistant

Department: Computer Science

| | Essential | Desirable | Tested by Application Form/Interview/Test |
|---|-----------|-----------|---|
| Knowledge, Education, Qualifications and Training | | | |
| Expertise and research interests in formal methods/testing/verification of real-world systems. | X | | Application Form, Interview |
| A completed PhD, or close to obtaining a PhD, in computer science, or a closely related field by the post start-date. | X | | Application Form |
| Knowledge of research techniques | X | | Application Form Interview |

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| Skills and/or Abilities | | | |
| Basic research skills | X | | Application Form, Interview |
| Ability to present complex information effectively to a range of audiences | X | | Application Form, Interview |
| Ability to write complex reports and papers accurately and clearly | X | | Application Form, Interview |
| Excellent communication skills | X | | Application Form, Interview |
| Experience of developing implemented tools in modern programming languages. | | X | Application Form, Interview |
| Experience | | | |
| Experience of working in a research environment | X | | Application Form, Interview |
| Experience of industrial collaboration | | X | Application Form, Interview |
| Experience of working in the higher education sector | | X | Application Form, Interview |
| Experience of research collaboration | X | | Application Form, Interview |