

8 Week Summer Internship Opportunity

Smart Data Technologies Centre

Project Title	Smart Data Technologies Centre: Summer Research Studentships
Project Outline	<p>The Smart Data Technologies Centre at RGU is offering two Summer Research Studentships.</p> <p>Aim: The aim of a summer research studentship is to introduce undergraduate students to our research work in computational intelligence. At the end of the studentship, the students will have:</p> <ul style="list-style-type: none">• learned basic research skills• participated as members in a current research project team• made a contribution to advancing research state of the art ¹ <p>Project Description: For the 2016 studentships, work will focus on investigating the properties of a new algorithm RK-EDA. RK-EDA is used to solve problems whose solution can be represented as an ordering of objects. One example is the Travelling Salesman Problem (TSP) where a tour round a set of n cities can be represented as an ordering of numbers 1 to n, interpreted as the order in which the cities are visited. Other well-known examples include the Quadratic Assignment Problem (QAP), the Linear Ordering Problem (LOP) and the Flow Shop Scheduling Problem (FSSP). We are interested in the behavior of RK-EDA on a large set of benchmark problems containing several instances of TSP, QAP, LOP and FSSP. The studentship will involve the following stages:</p> <ul style="list-style-type: none">• Learn the Algorithm• Experimental Design• Results Analysis• Experimental Write Up <p>The students will follow the stages of a short research project under the guidance of the supervisory team, who are the developers of the RK-EDA algorithm. A substantial Java code base is already in existence including implementation of the project benchmark set, and a full implementation of RK-EDA. The student will learn about the algorithm, how it works and why it is of research interest. They will then be introduced to the nature and purpose of experimentation with algorithms, how to design experiments and how to analyse the results. They will have access to the Xookik HPC cluster in order to run the experiments. The main deliverable of the project will be an experimental write up by each student in a standard format used by our research group.</p> <p>¹ It is anticipated, but not guaranteed, that the student will contribute to, and ultimately be named on, a published research paper.</p>
Eligibility	You must be a degree year student in the School of Computing Science and Digital Media at RGU and have successfully completed module CM3038: Artificial Intelligence for Problem Solving.

How to Apply	Please submit a CV, including an up to date transcript, along with a short covering letter (300 words) on why you wish to undertake a summer research studentship and your suitability for the work. Applications should be emailed to Dr. Virginia Dawod, v.dawod@rgu.ac.uk by 12 noon on 1st April 2016.
Project Supervisor	Prof. John McCall, Dr. Olivier Regnier-Coudert, Mayowa Ayodele
Project Dates	The studentships will run for 8 weeks from 16th May to 8th July 2016 (flexible)
Stipend	£1,440 per studentship, equivalent to £180 per week, paid in two instalments of £720.