Propose a vacation student project for Summer 2019

Deadline for making your proposal(s): 17:00 Friday 22 March 2019. This is a hard deadline.

This form is for one project proposal, so to propose multiple projects please submit a separate form for each project. Any queries, do ask - Toby.

Project supervisor email *

s.sampaio@manchester.ac.uk and rizos@manchester.ac.uk

Title of the project *

Building Cloud Simulations for Big Data Analysis Tasks

Source of funding *

- (●) School funding requested
- ( ) You have your own funding (e.g. research grant)

Objective of the project *

To investigate the performance trade-offs of a number of Big data analysis tasks when executed on a cloud, by designing and implementing a number of simulations

Number of students requested (justify if > 1) *

1

Start date, end date, total duration (weeks) *

Start: 03/06/2019; end: 30/08/2019; duration: 12 weeks

The benefit to the School *

This project represents work that involves high performance and cloud computing as well as data analysis, and shall, not only enrich existing teaching material currently delivered in CS course units that cover these areas, but also result in a publication.

The benefit to the student *

To learn how to design and build simulations using a proper cloud simulator; to investigate the properties of Big data preparation and analysis tasks; to prepare for analysis and analyse Big data; to interpret simulation results; to make adaptations and extensions to the implementation of complex data analysis tasks.

Skills needed by the student. *

Programming and analytical skills; an interest in Big data analysis and cloud computing, simulations and interpretation of results.

Details of the work that the student would do *

Design and build simulations using a proper cloud simulator; investigate the properties of Big data preparation and analysis tasks; prepare for analysis and analyse Big data; interpret simulation results; make adaptations and extensions to the implementation of complex data analysis tasks.

Infrastructure requirements and any required staff support other than the project supervisor *

Python, R, Web Services, Linux and Windows OS, Cloud Simulator

Supervision arrangements throughout the duration of the project (named staff and dates covering the entire duration) *

Weekly meetings with main supervisor (Sampaio) for the duration of the project; a number of meetings with 2nd supervisor.

Location of the project work (building/room) NB projects must be on-campus *

MSc lab (Kilburn 2.25 ab)