THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

Job Description

This form summarises the purpose of the job and lists its key tasks. It is not a definitive list of all the tasks to be undertaken as those can be varied from time to time at the discretion of the School, in consultation with the postholder.

Job title: Research Fellow in Data Science

Department/Division: Social and Economic Data Sciences Unit

Accountable to: SEDS Director

Job Summary:

This full-time position is part of a new initiative in data science and computational social science launched in 2016 at the LSE with the announcement of a new Social and Economic Data Science (SEDS) Unit. The LSE Fellow in Data Science will be expected to support a variety of academic projects in social data science, especially in liaising between academic researchers and LSE's new High Performance Computing (HPC) and private cloud computing services. The post is based in SEDS, but will involve working with researchers across the School, cooperating closely with the HPC and Information Management Technology division, and frequently collaborating with SEDS partners at the Data Science Institute at Imperial College London.

The Fellow will have extensive computing and applied data science skills with a social emphasis, including such topics as: social media data, text analysis, network analysis, financial data including real-time streaming data, and experimental or quasi-experimental data on large groups. The Fellow will also have a wide range of computing skills including database management, programming, working with code repositories (such as GitHub) UNIX and cloud computing experience, working with unstructured text data, and publishing materials on the web using content management or similar systems. A desire to encounter and resolve new research-oriented computing problems with a creative and people-oriented approach is essential to this role. The role also involves training others in applied data science techniques, such as contributing to teaching in data science (depending on demand and the candidate's background), leading workshops, and generally collaborating with a broad base of social scientists and data scientists at LSE and with its external partners.

Comfort with being part of a growing and entrepreneurial organization is essential, as SEDS and the computational social science initiative at LSE is in its early stages, but with high ambitions. The successful candidate will have initiative and ambition and be expected to actively participate in building bridges and networks within the School and externally with other researchers and private stake-holders. A typical candidate profile will be a recent postgraduate in data science or a cognate social science field with extensive computing experience, who wishes to gain experience working in a prestigious, exciting, and entrepreneurial environment that offers significant possibilities for networking and advancement.

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Duties/Responsibilities or HERA Competencies *(Please note, you can either complete the Job Description using the HERA Competencies or not)*

A key aspect of the role will be to provide targeted support through a "Data Science Incubator" role, similar to the model successfully deployed at the University of Washington and New York University. This program will invite proposals from potential collaborators from across the School, with applications taken each term. Successful applications will involve collaborators committing to spending at least one day each week of the term with the support officer, to develop a project in data science with the assistance of the support officer. Support activities will involve personalized training and problem-solving to overcome technical issues in which the researcher needs assistance or guidance, but may extend to broader collaborations.

The appointee will be responsible to the Director of the Social and Economic Data Science Unit, currently Professor Kenneth Benoit. Project personnel will consist of the LSE Fellow, a Postgraduate Research Assistant, and a half-time Administrator. The appointee will also work closely with IMT personnel on the High Performance Computing team, and with the LSE's external collaborators in data science.

The successful applicant will be expected to possess advanced skills and experience with computer programming. Essential skills include:

- Programming experience, with extensive experience in at least one language and additional knowledge of a variety of other languages. Common languages used for data science at LSE include Python and R. Java and/or C/C++ are also desirable, although far less commonly used among researchers at LSE.
- Experience with methods for scraping web data and using social media APIs.
- Knowledge of SQL and use a standard open-source database manager (e.g. MySQL, PostgreSQL), and/or non-SQL based database managers such as MongoDB.
- Ability to publish material on the web, through web page content managers (e.g. Wordpress or Drupal) or knowledge of solutions such as Bootstrap and Jekyll.
- Experience with or the ability to learn quickly interaction with high performance computing solutions.
- Experience with or the ability to learn quickly use of private cloud computing through virtual machines, such as OpenStack and/or Amazon's EC2.
- Experience with code repositories and collaborative publishing solutions such as GitHub.

In terms of other knowledge, experience, and abilities, the following abilities, skills, and activities are also expected:

- The ability to communicate technical issues effectively to a semi-technical audience.
- A willingness to work with less technical people in a supporting and collaborative role.
- Participation in workshops and conferences as part of the support activities.
- A willingness to work in a new role whose precise parameters will be refined throughout the period of the appointment.

A brief description of the Social and Economic Data Sciences Unit:

SEDS was established in early 2016 to form the basis for coalescing LSE's interdisciplinary involvement in several on-going initiatives in data science, including the School's bid for a Centre for Doctoral Training in "New forms of Data", in partnership with Imperial College London; a collaboration on an EPSRC grant to host workshops in Visual Analytics with the Data Science Institute of Imperial College London; providing a link for new proposals in postgraduate and undergraduate initiative s data science degrees, jointly with the Department of Statistics; promoting research in social data science generally; and forming the seed for the growth of computational approaches and computing sciences at LSE.

A key part of the early mission of SEDS will be to attract non-academic partners from the technology sector, including possible exchange relationships. Outreach activities will include a variety of workshops, hackathons, and public events to bring industry and academic partners together.

Because a great deal of grant-funded research at LSE involves data science and computation, SEDS is designed to form a nexus for such activities and play a supporting role. The LSE Fellow, through the incubator programme, will form a key component in this supporting role.

It is envisioned that the LSE Fellow in Data Science Role will be attractive to computationally skilled candidates with PhDs in a social science field, but with extensive data science and computing experience. With the exposure to research, data challenges, teaching, and the LSE environment generally, the experience that the Fellow will have acquired at the end of their contract should provide a competitive basis for a future career in a choice of academic or industry positions.

Note
The LSE has a progressive pay structure that rewards you with annual pay increases up to a certain level as you develop in your role. We also provide for further reward past this point in the form of further pay increases based on exceptional performance.

Flexibility
To deliver services effectively, a degree of flexibility is needed, and the post holder may be required to perform work not specifically referred to above.

Environmental Sustainability
The post holder is required to minimise environmental impact in the performance of the role, and actively contribute to the delivery of the LSE Environmental Policy.