PhD Studentship in Graph Database Technologies

Thanks to support from Neo4j (https://neo4j.com), we are pleased to announce the availability of a PhD studentship in the area of Graph Database technologies, starting in 2022. Neo4j are developers of the popular Neo4j graph database system, used in projects such as the Pandora Papers and its predecessors, and an industry leader in graph data management.

The value of the studentship is £10,000 per year for a maximum of four years.

The studentship is based at Birkbeck's Department of Computer Science and Information Systems, in collaboration with Neo4j. The Department of Computer Science and Information Systems at Birkbeck is a leading centre of expertise in knowledge representation and data management, experimental data science, and algorithms, verification and software; the department also leads two interdisciplinary research centres: the Birkbeck Institute for Data Analytics and the Birkbeck Knowledge Lab.

The topic of the PhD studentship will be to investigate issues related to graph query languages on the Neo4j platform. Neo4j developed the Cypher query language which has been adopted by many other graph database vendors and has also been the inspiration for GQL, a graph query language which is currently being standardised as part of the SQL standard. Issues to be investigated range from the theoretical, such as the expressiveness and complexity of subsets of GQL, to the empirical, such as discovering efficient ways to implement various query operators.

The PhD student will be supervised by Peter Wood (p.wood@bbk.ac.uk, https://www.dcs.bbk.ac.uk/about/people/academic-staff/ptw/) and Jan Hidders (j.hidders@bbk.ac.uk, https://www.dcs.bbk.ac.uk/about/people/academic-staff/jan/). Neo4j will also be closely involved in mentoring the student and will provide opportunities for interning with Neo4j to apply theory to practice. Peter Wood can be contacted for further information.

Who is eligible?

The studentship is open to full-time students. Applicants from low-income backgrounds and groups who are under-represented in computer science and PhD-level study are particularly encouraged to apply. The student will probably have to find additional sources of funding to cover the full costs of study (fees, living expenses, etc.). One possible source of income is to provide teaching assistance on one or more modules in the department.

Applicants should have a minimum of a 2.1 BSc degree in computer science (or equivalent); a distinction for an MSc degree in computer science would be preferable.

How to apply

Candidates should submit an application, clearly stating that they are interested in the *Neo4j Studentship in Graph Database Technologies,* via the following web page: https://www.bbk.ac.uk/study/2021/phd/programmes/RMPCOSCI/

Candidates should also submit a detailed CV, transcripts of previous studies, and a research statement explaining their interest in this area. They should be prepared attend an interview, either in person or online.