Oxford–UBS Centre for Applied AI DPhil Studentship: Modelling Corporate Relationship Networks for Investment Banking

Fully funded doctoral studentship for October 2027 entry

Student fee status: Home or Overseas
Supervisor: Prof Graham Cormode in collaboration the Oxford-UBS Centre for Applied AI/ Saïd Business School
Start Date: October 2027
Project: Modelling Corporate Relationship Networks for Investment Banking
Reference: UBS27GC

The Oxford–UBS Centre for Applied AI is a joint initiative between Saïd Business School and Oxford's Mathematical, Physical and Life Sciences Division.

The Centre invites applications from outstanding prospective DPhil candidates interested in the responsible development, adoption and impact of artificial intelligence in business, finance and society.

Students will join a multidisciplinary research community spanning management, finance, computer science, engineering and the social sciences. Interdisciplinary research in collaboration with MPLS colleagues in Computer Science and Engineering is highly welcome and actively facilitated by the Centre, alongside rigorous academic work with practical relevance for organisations and society.

Funding and support

The Centre offers fully funded doctoral studentships for candidates whose research interest aligns with its themes.

Support is expected to cover course fees and a grant for living costs, usually over four years. Applicants are also encouraged to pursue other University, college or external co-funding opportunities where appropriate.

The Department of Computer Science at the University of Oxford is offering a fully funded DPhil studentship for home or overseas students, to commence next academic year (October 2027).

Research

This project will develop privacy-preserving generative models of corporate relationship networks for investment banking, producing realistic artificial networks that support downstream analytics without exposing commercially sensitive relationships.

Investment banks hold rich data linking companies, investors, advisors, executives, financing rounds, M&A activity and historical transactions. These networks can support deal sourcing, market intelligence, sector analysis and transaction prediction. However, confidentiality limits their use for research and model development.

The research will develop generative AI methods for heterogeneous corporate graphs that preserve both global and local structure under appropriate privacy constraints. It may cover:

- Generative models for heterogeneous graphs with multiple entity and relationship types
- Preserving transaction motifs, communities, industry clusters and local clustering
- Privacy mechanisms and accuracy–memorisation/privacy trade-offs
- Scalable algorithms for large financial relationship networks
- Evaluation through graph mining, community detection, link prediction and transaction recommendation

The expected outcome is a framework and novel graph synthesis algorithms evaluated on realistic investment banking graphs or suitable alternatives, with utility measured on representative downstream tasks. Results will be reported through scientific papers and practical guidance for generating useful network datasets without exposing confidential relationships.

The project is highly interdisciplinary, and the successful candidate will have the opportunity to collaborate with other members of the Centre and the Department.

The studentship will provide an annual stipend (at the UKRI rate) at least £21,805 per annum for 3.5 years (42 months). The studentship will also cover the costs of course tuition fees**.**

Research students in the Department of Computer Science are also provided with a fund for travel to conferences and workshops (subject to approval).

Applicants must satisfy the usual requirements for studying for a doctorate at Oxford, and apply online by **Wednesday, December 2nd midday** via the DPhil in Computer Science, quoting studentship reference **UBS27GC**.

Candidates are expected to have a strong computational and/or mathematical background, with undergraduate studies in Computer Science, Mathematics, Statistics, Physics, Engineering or related disciplines.

Candidates must also have good writing, communication and presentation skills (see the University's web pages on the DPhil in Computer Science for details).

For further information or for informal discussions about suitability, please contact Graham Cormode (graham.cormode@cs.ox.ac.uk) or the Centre: applied-ai@sbs.ox.ac.uk.

For further information about the studentship or the application process, please e-mail graduate.admissions@cs.ox.ac.uk

Further information about the Centre and its research objectives can be found at the Centre website.