PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Advanced Technology
Supervisors	Principal supervisor: Dr. Fei Xue (XJTLU) Co-supervisor: Dr. Lin Jiang (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Analysis for Power System Security by Graphical Deep Learning on Complex Networks
Contact	Please email fei.xue@xjtlu.edu.cn (XJTLU principal supervisor's email address) with a subject line of the PhD project title. The principal supervisor's profile is linked here: https://www.xjtlu.edu.cn/en/departments/academic-departments/electrical-and-electronic-engineering/staff/fei-xue

Requirements:

The candidate should have a first class or upper second class honours degree, or a master's degree (or equivalent qualification), in Electrical Engineering.

Evidence of good spoken and written English is essential. The candidate should have an IELTS score of 6.5 or above, if the first language is not English. This position is open to all qualified candidates irrespective of nationality.

Degree:

The student will be awarded a PhD degree from the University of Liverpool (UK) upon successful completion of the program.

Funding:

The PhD studentship is available for three years subject to satisfactory progress by the student. The award covers tuition fees for three years (currently equivalent to RMB 99,000 per annum). It also provides up to RMB 16,500 to allow participation at international conferences during the period of the award. The scholarship holder is expected to carry out the major part of his or her research at XJTLU in Suzhou, China. However, he or she is eligible for a research study visit to the University of Liverpool up to six months, if this is required by the project.

Project Description:

This project aims to integrate deep learning by Graph Neural Networks and structural analysis by Complex Networks for more comprehensive analysis of power system security. This project has three major contributions: (1) A novel deep learning model by integrating electrical physical rules with Graph Convolutional Networks to analyze cascading failures in power grids; (2) A novel decision-making model for power system defending control by integration of Reinforcement Learning and Graph Neural Networks; (3) An innovative model of situation awareness to evaluate power system security based on Complex Networks and Graph Neural Networks. The work will be promising to significantly enhance the efficiency and effectiveness of power system security analysis compared with other conventional works.

For more information about doctoral scholarship and PhD programme at Xi'an Jiaotong-Liverpool University (XJTLU), please visit

https://www.xjtlu.edu.cn/en/admissions/global/entry-requirements/

https://www.xjtlu.edu.cn/en/admissions/global/fees-and-scholarship

How to Apply:

Interested applicants are advised to email…....@xjtlu.edu.cn (XJTLU principal supervisor's email address) the following documents for initial review and assessment (please put the project title in the subject line).

- CV
- Two formal reference letters
- Personal statement outlining your interest in the position
- Certificates of English language qualifications (IELTS or equivalent)
- Full academic transcripts in both Chinese and English (for international students, only the English version is required)
- Verified certificates of education qualifications in both Chinese and English (for international students, only the English version is required)
- PDF copy of Master Degree dissertation (or an equivalent writing sample) and examiners reports available