

PhD studentship (Full-time)



Institution	Xi'an Jiaotong-Liverpool University, China
Department	Department of Electrical and Electronical Engineering
Supervisors	Principle supervisor: Professor Kaizhu Huang(XJTLU, Electrical and Electronical Engineering) Co-supervisor: Dr Rui Zhang(XJTLU, Mathematic Sciences) Co-supervisor: Professor Yannis Goulermas (UoL, Computer Science)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Investigation of adversarial learning with deep neural networks 对抗学习在深度神经网络中的研究与应用
Contact	Please email Kaizhu.Huang@xjtlu.edu.cn (XJTLU principal supervisor's email address) with a subject line of the PhD project title

Requirements:

The candidate should have a first class or upper second class honours degree, or a master's degree (or equivalent qualification), in computer science, mathematics, automation, pattern recognition, and other relevant engineering subjects. 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 80,000 per annum) and provides a monthly stipend of 5,000 RMB as a contribution to living expenses. It also provides up to RMB 16,500 to allow participation at international conferences during the period of the award. It is a condition of the award that holders of XJTLU PhD scholarships carry out 300-500 hours of teaching assistance work per year. 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 of up to three months, if this is required by the project.

Project Description:

Adversarial examples are augmented data generated by imperceptible perturbation of existing samples. They have recently drawn much attention with the machine learning community. Being difficult to distinguish from real examples, such adversarial examples could easily fool and attack many deep learning models. The objective of this project is to engage the robust minimax theory to develop a robust and unified classification framework that takes into account uncertainty from data. Aiming at promoting the robustness of deep neural networks, the proposed methodology attempts to exploit the adversarial setting (in particular the theory of adversary example) to study classification approaches as well as the involved efficient optimization algorithms. The intended research will target a unified and scalable adversarial classification framework that can robustly handle various data assuming no specific attack, no specific perturbation, and no specific loss function.

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

<http://www.xjtlu.edu.cn/en/study-with-us/admissions/entry-requirements>

<http://www.xjtlu.edu.cn/en/admissions/phd/feesscholarships.html>

How to Apply:

Interested applicants are advised to email Kaizhu.Huang@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 reference letters with company/university letterhead
- Personal statement outlining your interest in the position
- Proof of English language proficiency (an IELTS score of 6.5 or above)
- Verified school 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

Informal enquiries may be addressed to Professor Kaizhu Huang (Kaizhu.Huang@xjtlu.edu.cn), whose personal profile is linked below,
<http://www.premilab.com/KaizhuHUANG.ashx>