PhD studentship   (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
Department	Department of Electrical and Electronic Engineering
Supervisors	Principle supervisor: Dr. Qiufeng Wang (XJTLU, EEE Department) Co-supervisor: Professor Kaizhu Huang (XJTLU, EEE Department) Co-supervisor: Dr. Yannis Goulermas (UoL, CS Department)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	融合互联网文本的文档识别方法研究/Investigation on integrating texts in document recognition
Contact	Please email qiufeng.wang@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, Mechatronics, Electric or Automation. 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 3500 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:

当前中文文档识别技术有了长足的发展，但是对于一些书写自由或者背景复杂的文档，其识别性能仍然达不到实用的要求，离人类认识水平还有一定的距离。这里面一个很重要的原因是上下文信息利用的不够，而日益普及的互联网上有丰富的上下文知识，因此融合互联网文本的文档识别是解决这个问题的一个有效途径，但当前还没有引起足够重视。本项目拟系统研究利用互联网检索，融合互联网文本的文档识别系统中的理论和关键技术问题，提出和实现有效的方法，以提高识别性能和推动实际应用为目的。主要研究内容和创新点包括：（1）文档识别框架下的互联网文本检索方法；（2）基于强语言上下文的文档识别方法；（3）基于互联网文本的局部和全局上下文语言模型非监督自适应算法；（4）基于弱监督的上下文模型动态融合方法。本项目提出的方法将有效的提高文档识别性能，推动文档识别技术实用化的发展；同时产生学术价值。

Chinese document recognition technology has achieved tremendous advance in recent years, however, it has not been solved yet for the documents of free handwriting or complicated background, where the recognition performance is not good enough for the industrial application, and is far away from human recognition. One issue of the current recognition methods is that it does not utilize the context information sufficiently. Meanwhile, there is rich context knowledge on the internet. To overcome this issue, it is a good way to integrate internet texts into the recognition system, however, this has not received enough attention yet. In this project, we will investigate the theory and key techniques for the integration of internet texts in the recognition system by internet search, and propose effective methods. The main research contents and innovations are as follows: (1) propose the internet text search method in the document recognition framework; (2) propose the document recognition method based on the strong linguistic context; (3) propose the unsupervised language model adaptation of both local and global contexts from Internet texts; (4) propose the dynamic combination of multiple context models based on the weekly supervised method. The proposed methods will improve the performance of document recognition, and promote the development of document recognition technologies in the industrial application, meanwhile, get academic value.

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 qiufeng.wang@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)

Informal enquiries may be addressed to Dr.Wang (qiufeng.wang@xjtlu.edu.cn), whose personal profile is linked below,
http://www.xjtlu.edu.cn/en/departments/academic-departments/electrical-and-electronic-engineering/staff/qiufeng-wang