

## PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Intelligent Manufacturing Ecosystem
Supervisors	Principal supervisor: Dr Yufan Zheng (XJTLU) Co-supervisor: Dr Yi Chen (XJTLU) Co-supervisor: Dr Heba Lakany (UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	Research on End-to-End Real-Time Scheduling Methods for Remanufacturing under Dynamic Uncertainty
Contact	Please email <a href="mailto:yufan.zheng@xjtlu.edu.cn">yufan.zheng@xjtlu.edu.cn</a> (XJTLU principal supervisor's email address) with a subject line of the PhD project title.  The principal supervisor's profile is linked here: <a href="https://scholar.xjtlu.edu.cn/en/persons/YufanZheng">https://scholar.xjtlu.edu.cn/en/persons/YufanZheng</a>

### **Requirements:**

The candidate should have a first class or upper second class honours degree, or a master's degree (or equivalent qualification), in Mechanical Engineering, Industrial Engineering, Applied Mathematics, Computer Science and other relevant fields.

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 50% tuition fee reduction for three years (RMB 148,500 total value). 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 research project aims to enhance the efficiency of remanufacturing processes by addressing the complexities of multi-stage scheduling tasks and dynamic uncertainties. The project seeks to develop a matching mechanism between manufacturing flexibilities and sequential decision-making tasks, and to analyze the impact of dynamic uncertainties on scheduling decisions. Employing methodologies such as sequential decision model construction, reinforcement learning (RL) algorithm design, and system development, the research intends to create an end-to-end real-time solution framework. The outcomes will provide theoretical and practical support for improving remanufacturing efficiency, particularly in automotive applications, by developing a real-time scheduling support system within an "offline training + online deployment" framework.

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 [yufan.zheng@xjtlu.edu.cn](mailto:yufan.zheng@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