

PhD studentship (Full-time)

Institution	Xi'an Jiaotong-Liverpool University, China
School	School of Advanced Technology
Supervisors	Principal supervisor: Dr...Dongyao Jia... (XJTLU) Co-supervisor: Dr...Gordon Boateng...(XJTLU) Co-supervisor: Dr...Yi Dong.....(UoL)
Application Deadline	Open until the position is filled
Funding Availability	Funded PhD project (world-wide students)
Project Title	...Decision-Making Design for Autonomous Driving Considering Intentions of Heterogeneous Traffic Participants
Contact	Please email...dongyao.jia@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://scholar.xjtlu.edu.cn/en/persons/DongyaoJia

Requirements:

A Master's degree with Merit and a Bachelor's degree with first-class or upper second-class honors are required for PhD admissions. Exceptional candidates holding only a Bachelor's degree may be considered on an individual basis in certain disciplines.

Evidence of good spoken and written English is essential. The candidate should have an IELTS (or equivalent) 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. RA/TA subsidy will be offered upon the working performance. The scholarship holders are expected to conduct the majority of their research at XJTLU in Suzhou,

China. However, they may apply for a short-term research visit to the University of Liverpool if the project requires it.

Project Description:

Recent advances in sensing technologies, artificial intelligence, and vehicle automation have significantly accelerated the development of autonomous driving systems. Despite these advances, autonomous vehicles continue to face substantial challenges in mixed traffic environments populated by heterogeneous traffic participants, including human-driven vehicles, pedestrians, cyclists, and other vulnerable road users. The uncertainty of human behaviors and the complex interactions among traffic participants make it difficult for autonomous vehicles to generate safe, efficient, and socially compliant driving decisions. A fundamental challenge is therefore enabling autonomous vehicles to understand the intentions of surrounding agents and reason about their interactions in dynamic traffic environments. This research aims to develop an intention-aware decision-making framework for autonomous driving in mixed traffic by integrating behavioral intention understanding, interaction reasoning, and uncertainty-aware decision-making. The research will explore a combination of data-driven, knowledge-driven, and emerging artificial intelligence approaches, allowing flexible adoption of advanced learning and reasoning techniques where appropriate.

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...Dongyao.jia@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