



BU STUDENTSHIPS 2023

PROJECT DESCRIPTION

PROJECT TITLE	
Multi-modal foundation models	
PROJECT SUMMARY	
<p>We are seeking talented and enthusiastic candidates to join the EU-funded PRESERVE project, under the direction of the Principal Investigator, Prof Hamid Bouchachia, working towards the development of machine learning, data mining, and AI methods with the application in Computer Vision (video and image processing), Speech Recognition (audio) and Natural Language Processing (text). The position will be suitable for any profile in computer science, engineering, mathematics, statistics or from other science disciplines with knowledge in machine learning and AI (specifically foundation models, deep learning architectures, federated learning, data/model fusion) and essential knowledge about ML frameworks and pipelines as well as computer systems.</p> <p>The successful candidate will need to be knowledgeable in one of the listed areas and will investigate and develop scalable and privacy-guaranteed novelty detection, clustering and classification. The focus is mostly on foundation models that involve multiple modalities of data (text, video, audio, image), where transferability and robustness of such foundation models are key questions. Other elements of foundation models such as transparency and reasoning are also of relevance too. However, the exact boundary of the research work for this position will be limited to one of the listed aspects based on the background of the candidate in a way for them to contribute to the delivery of the project by conducting relevant research that leads to publishable outputs and exploitable results.</p> <p>There are two studentships available for this project and the details of the individual projects will be developed with the successful candidate in order to maximise development of their existing strengths and research interests.</p>	
ACADEMIC IMPACT	
<p>The project offers great opportunity to work as part of a team with evidenced expertise in ML to design and develop new algorithms in the areas mentioned above, especially in the newly emerging area of multi-modal foundation models, that can be published in impactful academic conferences and journals. The results of research will be exploited by the stakeholders of the PRESERVE project.</p>	
SOCIETAL IMPACT	
<p>The work supports law enforcement authorities by leveraging Privacy Enhancing Technologies (PETs) as part of the effort to proactively detect and prevent cybercrime while safeguarding individual privacy, ensuring unbiased policing, and adhering to the EU's ethical standards for AI.</p>	
PGR DEVELOPMENT OPPORTUNITIES	
<p>The researcher will have the opportunity to collaborate European partners part of the PRESERVE project. They will have access to funding for international travel, e.g., for attending conferences, attending the consortium meetings, and research dissemination, while working in a supportive, collaborative, inclusive and non-discriminating working environment.</p>	

SUPERVISORY TEAM	
First Supervisor	Prof Hamid Bouchachia
Additional Supervisors	Dr Mohammad Naiseh

INFORMAL ENQUIRIES

Please contact the lead supervisor on the following email for informal enquiries: abouchachia@bournemouth.ac.uk

ELIGIBILITY CRITERIA

The BU PhD Studentships are open to UK, EU and International students.

Candidates for a PhD Studentship should demonstrate outstanding qualities and be motivated to complete a PhD in 4 years and must demonstrate:

- outstanding academic potential as measured normally by either a 1st class honours degree (or equivalent Grade Point Average (GPA) or a Master's degree with distinction or equivalent
- an IELTS (Academic) score of 6.5 minimum (with a minimum 6.0 in each component, or equivalent) for candidates for whom English is not their first language and this must be evidenced at point of application.

ADDITIONAL ELIGIBILITY CRITERIA

HOW TO APPLY

Please complete the online application form by **the deadline listed on the project webpage**.

Further information on the application process can be found at: www.bournemouth.ac.uk/studentships