

RESEARCH STUDENTSHIP

All studentships are highly competitive, and you should ensure (and demonstrate) that there is a good match between your own qualifications and interests and those being sought for the particular studentship.

Research School where studentship will be held	Computer Science Research Centre, School of Computer Science and Mathematics, Faculty of Natural Sciences, Keele University.
Studentship reference	FNS_BMDec23
Web link to any further information (e.g. Research Institute/School/Faculty)	Computer Science Research Centre - https://www.keele.ac.uk/scm/research/computerscienceresearch/ Faculty Research Office - https://www.keele.ac.uk/natsci/research/
Research topic or field - title	Computer Vision and Machine Learning for Recognition of Civil Structural Components and their Damage Analysis.
Research topic or field full description (or attached document).	<p>In this project the PhD research student will investigate the strengths and weaknesses of the deep convolutional neural network for analysis of civil infrastructures, such as concrete bridges, highways, buildings, tunnels and stadiums, using videos and images. The student research work will be on finding contextual information that can be used for recognition/reidentification of the civil structural components (CSCs), such as columns, beams, slabs, arches, plates, shells, etc. This will be followed by analysis of unhealthy (defects such as spallation, exposed bar, corrosion, crack, etc) areas in the CSCs. The student will study, analyse and conduct experiments systematically to model and design new semi-supervised and/or unsupervised deep networks that outperforms the current-state-of-the-art algorithms on standard benchmarking and/or real-world databases. In this project, all databases used will be in accordance to their terms and conditions. Where applicable, appropriate favourable ethics approval will be obtained before any research project studentship offer is made. There is an expectation that the student will also research and apply relevant legal and ethical issues in data collections and analysis in this domain.</p> <p>These are active and important areas of research with many opportunities for innovation and collaboration. This project will provide an opportunity to pursue world-class research, provide experience of design and evaluation processes and an opportunity for substantial contribution to international publication in leading journals/conference/workshop proceedings.</p>
Expected start date	As soon as possible
Mode of attendance	Open to fully self-funded full time / part time students.

<p>Funding support available – Fees, stipend, duration</p>	<p>Funding example text:</p> <ul style="list-style-type: none"> • Self funded <p>Please note that self-funded applicants must provide funding for both tuition fees and living expenses for the 3 year duration of the research. There is a future possibility of competitive scholarship awards for outstanding applicants (1st class honours/equivalent), however, none are currently available. For information regarding University tuition fees please see: http://www.keele.ac.uk/pgresearch/feesandfinance/</p>
<p>Source of funding</p>	<p>This opportunity for self-funded applicants only (for example, international students with government or industry sponsorship and UK students with Doctoral Loan funding: https://www.gov.uk/doctoral-loan).</p>
<p>Eligibility criteria</p>	
<p>Terms and conditions of studentship</p>	<p>As per the University Code of Practice</p>
<p>Number of studentships available</p>	<p>2 to 3 positions.</p>
<p>Application details</p>	<p>Please go to http://www.keele.ac.uk/pgresearch/studentships/ and click on the "Apply online here" button in this studentship. Please quote "FNS_BMDec 23" on your application.</p>
<p>Closing date for applications</p>	<p>Applications are welcome all year around.</p>
<p>Contact for further information and to whom applications will be sent</p>	<p>Informal enquiries about the project are very welcome by email to the Project Lead, Dr Bappaditya Mandal (b.mandal@keele.ac.uk). Full applications should be submitted to: https://www.keele.ac.uk/study/postgraduateresearch/researchareas/computerscience/</p>

Candidate profile

	Essential	Desirable
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<p>Qualifications, Experience and Skills</p>	<p>Applications are welcomed from science, technology, engineering or mathematics graduates with (or anticipating) at least a 2.1 honours degree or equivalent. Applicants will require good general programming skills but will not need specific computing expertise in, for example, Computer Vision, Machine Learning and Video Analytics.</p> <p>Applicants should have an enthusiasm for design and experimentation as well as a willingness to acquire new skills. Ideally, applicants will be self-motivated and have the ability to work both independently and as part of a team.</p> <p>This opportunity is open to UK/EU and overseas/international students. The collaborative and presentation aspects of the research require good English language and communication skills. Overseas applicants would therefore require an English IELTS (or equivalent) of 6.0 overall with no less than 5.5 in any subtest.</p> <p>For PGR students joining us from August 2024 onwards, for all subject areas, we require IELTS 6.5 with no less than 6.0 in any subtest.</p>	
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<p>Attitude and Personality</p>	<p>Effective communication (oral and written) skills, presentation and training skills</p> <p>Good interpersonal skills</p> <p>Ability to work independently and as part of a team on research programmes</p> <p>Ability to initiate, plan, organise, implement and deliver programmes of work</p>	
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Keele University values diversity, and is committed to ensuring equality of opportunity. In support of these commitments, Keele University particularly welcomes applications from women and from individuals of black and ethnic minority backgrounds for this post. More information is available on these web pages:

<https://www.keele.ac.uk/equalitydiversity/>

<https://www.keele.ac.uk/athenaswan/> <https://www.keele.ac.uk/raceequalitycharter/disabilityconfident/>