

EPSRC-funded PhD Studentship: Deep-Learning based Bitstream Analytics for Value Discovery in Video (UK or EU students who are residents in the UK)

A 4-year fully-funded PhD studentship for research in the area of video indexing and retrieval is available at the Department of Electronic and Electrical Engineering at University College London (UCL), in conjunction with The Media Institute (TMI) and its industrial partners. The project aims to develop robust and scalable methods for video indexing, metadata extraction and similarity detection based on ultra-efficient deep neural network architectures.

Background: Video comprises the major communications and entertainment media asset, occupying more than 60% of today's Internet traffic. Yet, video remains the least-manageable element of the big data ecosystem. This is because all state-of-the-art methods for high-level semantic description in video require either manual annotation or compute-intensive video decoding and processing. This EPSRC-funded PhD project, together with the co-funding from TMI and its partners, aims to create a robust and performant ecosystem of software tools and infrastructure components to uniquely identify and describe video attributes within networks and file systems. This establishes a foundation for content owners and service providers to protect their video assets from piracy, measure viewer traffic, and enrich asset and rights management and recommendation services, all with substantially advanced simplicity and automation in comparison to existing methods. The project builds on novel video signature extraction technology developed by previous work of TMI and UCL. Deep learning methods will now be added and the signature extraction and content classification will be carried out using novel compressed domain information extraction. This enables semantic identification of media regardless of platform (film, television, web, OTT, mobile).

Beyond the research work, the project student will engage with industry consortia to spur adoption. Several technical reports and academic papers will be prepared and submitted for publication to relevant journals or conferences, e.g., IEEE Transactions on Multimedia, IEEE Transactions on Circuits and Systems for Video Technology, or similar.

Industrial Partner:



The Media Institute (TMI) was founded by UCL in 2010 and is now a member-based independent commercial entity focused on outreach and collaboration between academia and industry and accelerating and expanding the volume of media-related research. Based at the London Media Technology Campus, a joint UCL/BBC facility in Central London, TMI provides infrastructure for project support, dissemination activities and market intelligence, life-cycle management for open project outputs and the provision of technical experts from its consultants.

For more information, visit <http://www.themediainstitute.com>.

PhD Studentship: The studentship is available for 4 years with start date of 25th September 2017. The award will cover tuition fees (UK only) and a tax-free maintenance stipend (including top-up) which is currently £16,296 per annum. Candidates should have received, or expect to receive, at least a 2:1, or equivalent, in their first degree in Computer Science or Electrical/ Electronic Engineering, or similar, or an equivalent MSc degree. They should also have strong programming skills in structured and script-based programming (e.g., Java, C/C++ and Python, PHP, Matlab). Knowledge of video analysis and deep neural network training and testing (e.g., via usage of openCV, TensorFlow, etc.) is desirable but not necessary. Candidates should have an autonomous and proactive working style, good communication skills and the ability to work in a team. Please note that, due to funding restrictions, only UK home students are eligible for this studentship

To apply, please send a CV, a cover letter and contact details of at least two referees to Dr Yiannis Andreopoulos (i.andreopoulos@ucl.ac.uk), quoting "EPSRC-TMI PhD studentship" in the email subject line. Informal queries can be addressed also to Dr Andreopoulos at this email address and with the same subject line.

Closing date: 21st April 2017