



## PhD Studentship: Graph Learning for Volumetric Video Processing

Department: Electronic & Electrical Engineering

Supervisor: Dr Laura Toni

Starting date: July 2019

Duration of study: Full Time- three years fixed term

Application deadline: 30<sup>th</sup> June 2019 (or until filled)

A fully-funded PhD studentship is available to EU students within the project of *machine learning algorithms for immersive communication*. The studentship is available from 1<sup>st</sup> July 2019, for a period of three years (with possibility of 1 year extension). The student will work under the supervision of Dr. Laura Toni at the Department of Electronic and Electrical Engineering at UCL.

New modalities such as cloud point depart from the canonical 2D regular grid representation and they are rather defined on irregular but structured domains. Graphs are a flexible framework to model data on such irregular domains. Building on recent advances in graph signal processing, we are interested in learning meaningful representation of these signals to be able to process the acquired signal (e.g., compression, denoising). Within this framework, we are looking for one research fellow who will join a team that is currently working emerging field of graph signal processing for volumetric content with the specific twist of graph learning for new modalities representations and processing. The work carried out in the group will result in scientific publications in top-level venues in multimedia and machine learning conferences and journals.

Applicants must hold, or be near completion of a first or upper-second class degree in Engineering or a related subject. An understanding of machine learning and optimization algorithms is required. The ideal candidate would also have a strong interest in computer programming, communications systems, or multimedia processing. We are seeking candidate with the potential to engage in innovative research and to complete the PhD within a three-year period of study. Fluent English is also required.

Also, the candidate is expected to:

- Have excellent analytical and engineering skills
- Have excellent reporting and communication skills
- Be self-motivated, independent and team player
- Have genuine enthusiasm for the subject and technology
- Have the willingness to author and publish research findings in international journals

- Be eligible for home EU studentship:

<https://www.ucl.ac.uk/students/fees-and-funding/pay-your-fees/fee-schedules/student-fee-status>

<https://www.ukcisa.org.uk/Information--Advice/Fees-and-Money/England-fee-status#layer-6082>

The studentship is available for three years and covers tuition fees at the UK/EU rate, plus a stipend at £16,296 pa (tax free) (18/19 rates)

### **About UCL and the Department of Electronic and Electrical Engineering**

University College London (UCL) was founded in 1826 as the third university in England, after Oxford and Cambridge. UCL is the first university in England to admit students of any race, class or religion, and the first to welcome women on equal terms with men. UCL is organized into 11 constituent faculties, within which there are over 100 departments, institutes and research centres. UCL has 983 professors and more than 7000 academic staffs who are dedicated to research and teaching of the highest standards. Its student community is almost 36,000, the largest in the UK. There are 29 Nobel Prize winners and three Fields medalists amongst UCL's alumni and current and former staff. UCL is the top rated university in the UK for research excellence (REF2014). It has a strong tradition and large knowledge base in medical research with a dedicated institute on Healthcare Engineering and 10+ hospitals. UCL has world-class support for researchers and has been voted the best place for postdoctoral researchers to work for consecutive years by The Scientist magazine. The main campus of UCL is located in central London, close to British Museum, West-End and Thames River. The Department of Electronic and Electrical Engineering at UCL was established by Professor Sir Ambrose Fleming in 1885 and has a very strong research culture, state-of-the-art research equipment and facilities, and a very rich history of many fundamental research achievements in electronic and electrical engineering. The department has received top ratings in every UK research evaluation carried out to date.

### **How to apply**

Interested applicants are encouraged to make Informal enquiries about the post to Dr Laura Toni [l.toni@ucl.ac.uk](mailto:l.toni@ucl.ac.uk).

Formal applications should be submitted with a CV, a brief statement of your research interests, and with names and email addresses of two referees to Dr Laura Toni at [l.toni@ucl.ac.uk](mailto:l.toni@ucl.ac.uk)