

Northeastern University London Fully Funded PhD Scholarship in *Computer Science*

PhD: Colours to Words: Multilingual colour naming systems with multi-modal deep learning

Northeastern University London > Faculty of Computing, Mathematics, Engineering & Natural Sciences

Deadline: 21/10/2024

Funded PhD Project (UK or International Students)

Funding provider: Northeastern University London (NU London)

Subject areas: Computer Science, Cognitive Science, Colour Science

Project start date: 13th January 2025

Supervisors (*lead):

- Dimitris Mylonas* (Northeastern University London)
- Alexandros Koliouisis (Northeastern University London)
- Giovanni Luca Masala (University of Kent)

Aligned programme of study: PhD in Computer Science

Mode of study: Full-time

The Project

We are currently looking for a motivated PhD researcher in Computer Science. The successful candidate will contribute to an interdisciplinary project focused on multi-modal and multi-lingual colour naming systems for communicating about colour in complex images, a research area that impacts multiple disciplines and has a lot of practical applications.

This research aims to augment colour communication in context by designing a data-driven colour naming system that supports the full complexity of colour lexicons across different languages. Through a combination of crowdsourcing and computational experimental methodologies, the candidate will collect and analyse data from diverse cultural backgrounds to study the relationship between perceptual and cognitive aspects of colour communication. This involves using state-of-the-art multi-modal deep learning models to estimate colour names of objects and surfaces in complex scenes; examining visual and linguistic factors

contributing to colour categorisation; and exploring potential applications in a range of fields such as e-commerce and data visualisation.

The successful candidate will join the “Cones-to-Words” research team at the Northeastern University London campus under the supervision of Dr Dimitris Mylonas and Dr Alexandros Koliouis and Giovanni Luca Masala from the University of Kent.

The successful candidates will:

- Strong research and analytical skills, along with a background in computer science, data science or cognitive science.
- Have a proven, strong educational background in computer/data science or a related subject (see eligibility criteria); background in colour engineering is a plus but not essential
- Be excited and inspired by the proposed project area
- Be an independent learner
- Have strong communication skills
- Have an inquiring mind and be willing to challenge themselves

The successful candidates will benefit from a brand new campus on the banks of the River Thames next to Tower Bridge. This is an interdisciplinary, vibrant research environment with international collaboration and networking opportunities and dedicated research space. It will form the hub of a highly experienced, multi-institution supervisory team from NU London and the University of Kent. In addition, successful candidates will benefit from the unique connection to the wider Northeastern University network in North America, providing a range of additional research opportunities and learning resources.

Shortlisted candidates will be interviewed in November 2024. Candidates are welcome to contact the NU London supervisor with informal enquiries before the application deadline: Dimitris Mylonas (dimitris.mylonas@nulondon.ac.uk)

Eligibility

- Bachelor's degree in a relevant subject - 2:1 or 1st (essential)
- Master's degree in a relevant subject (optional)

English Language requirements:

If applicable – IELTS 7 overall (with a score of at least 6.5 in each individual component) or equivalent.

Nationality

Applications are open to UK and international students. Please indicate if you are likely to require a visa on your application. We are unable to support visa costs.

Funding

This scholarship covers the full cost of tuition fees, an annual stipend (including additional London allowance, set at UKRI rates) for 3.5 years. For the 2024/2025 academic year the annual stipend is £21,237. Annual increments will be in line with UKRI rates.

International travel

Students will have the optional opportunity to travel to Northeastern University in North America to further their research training and experience.

How to Apply

Please send a CV and a Covering Letter stating how you meet the requirements and why you are interested in the proposed research project by clicking on [this link](#). Please reference your application “**PHDCS0924**”.

Northeastern University London

As part of a major investment, Northeastern University London (NU London) has multiple, fully-funded PhD studentships available to accelerate its interdisciplinary research in the humanities, social sciences and digital sciences. Each scholarship is fully-funded for three and a half years (UKRI rates) and includes fees, an annual stipend, an additional London allowance and associated costs, such as training.

NU London is both a UK university governed by UK higher education regulations, and the European campus of Northeastern University – a large, top-tier research intensive, Boston-based institution. Founded in 1898, Northeastern received \$230.7m of external research funding in 2022, and is the recognized leader in experience-driven lifelong learning. It has campuses across the United States and Canada (in Boston; Charlotte, North Carolina; Portland, Maine; Oakland, California; San Francisco; Seattle; Silicon Valley; Arlington, Virginia; the Massachusetts communities of Burlington and Nahant; Toronto and Vancouver). Whilst the PhD will be a UK qualification, students will have the opportunity to engage with and visit the Northeastern University network overseas as part of their London-based doctoral studies, providing a truly unique and highly sought-after dimension to their research training.