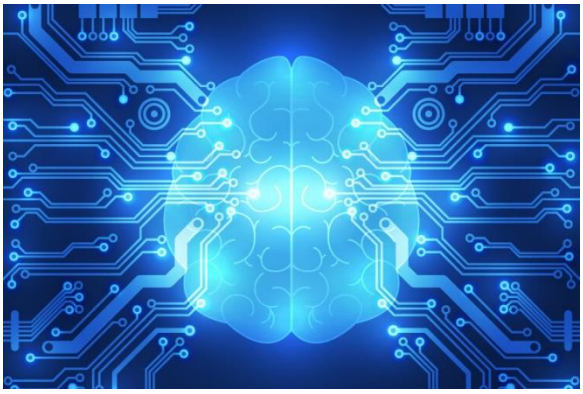

# *NEW National Programme*

# MSc. in Artificial Intelligence

**An exciting new two-year part-time programme to give current and potential AI engineers the skills, theory and recognition they need to develop in their role. For the first time, candidates can gain a full MSc degree in this specialist area through a mixed learning process with an emphasis on practical application in the workplace.**

## Origination

This initiative has emerged from needs expressed by member companies of Technology Ireland ICT Skillnet augmented by research and data from IDA Ireland, Enterprise Ireland, Science Foundation Ireland and others.
AI is already at the heart of many transformational business and technical applications, typically employing a combination of data analytics and machine learning. AI applications using massive datasets, powerful computing architectures and advanced learning algorithms are contributing to business growth and societal benefit in fields such as Health, Education, Finance, Telecommunications, Leisure and the Automotive Industry, while new AI-enhanced services for communication, information, entertainment and social convenience are fundamentally altering the way in which society functions. This trend is set to continue and accelerate.

Companies that have supported the content development of this course include: Accenture, Advanced Metadata, Analog Devices, Citibank, Dell EMC, Emdalo Technologies, Ericsson, IBM, iMage Vision, Jaguar Land Rover, Movidius an Intel Company, Microsoft, Nokia Bell Labs, Soapbox Labs, and Valeo Vision Systems.

## Programme Aims

The programme is industry-led and is being developed with the support of a range of companies working in this field in Ireland. Skillnets is funding most of the development costs and the delivery costs will be part-funded both by Skillnets and the participating companies.

The ***University of Limerick*** won the tender to develop and deliver this new national MSc in Artificial Intelligence (AI). The next course will begin in September 2019 and will be delivered predominantly online with some intensive workshops delivered in group sessions at sites designated by the College.

In addition to the Masters course a short intensive 12 week fast-track Certificate in AI course has been developed and delivered by UL in collaboration with the Irish Centre for High End Computing, Ireland's national centre for HPC. Participants must complete the Preparatory course for entry to the Masters regardless of their prior qualifications or experience. Successful completion of the Preparatory Course will lead to the award of a Certificate in Artificial Intelligence by UL.

Both these courses will equip participants with a knowledge-base and an advanced skillset to enable them to become highly capable experts for this strategically important sector which will in turn have a positive impact on the Irish economy.

## Programme Outline

The Masters course will run over two-years part-time and will be delivered primarily via on-line lectures, supported with tutorials and assignments and some on-campus workshops. Assessment will be based on assignments and project work with a practical rather than theoretical focus. Modules will be delivered as discrete entities with associated assessment of mastery so that Semester by Semester there is a confirmed and

measurable achievement of learning objectives that can be transferred directly and immediately to the workplace. The Masters will be a major award at Level 9 of the NFQ with 90 ECTS credits (60 taught and 30 project).

## PROGRAMME CONTENT

**Certificate in Artificial Intelligence** modules:

| Autumn | |
|---|---|
| CE4021 | INTRODUCTION TO SCIENTIFIC COMPUTING FOR AI |
| CE4031 | INTRODUCTION TO DEEP LEARNING AND FRAMEWORKS |

**MSc in Artificial Intelligence** modules:

Year 1 Spring

| Mod Code | Mod Name | Credits |
|---|---|---|
| CE6002 | ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING | 6.00 |
| CS5062 | DATA ANALYTICS | 6.00 |
| ED5072 | ADVANCED TOPIC SEMINARS AND PROJECT IDENTIFICATION | 6.00 |

Year 1 Summer

| Mod Code | Mod Name | Credits |
|---|---|---|
| ED5073 | RESEARCH METHODS AND PROJECT SPECIFICATION | 6.00 |
| IN5103 | RISK, ETHICS, GOVERNANCE AND ARTIFICIAL INTELLIGENCE | 6.00 |

Year 2 Autumn

| Mod Code | Mod Name | Credits |
|---|---|---|
| CE6003 | MACHINE VISION | 6.00 |
| ET5003 | MACHINE LEARNING APPLICATIONS | 6.00 |

Year 2 Spring

| Mod Code | Mod Name | Credits |
|---|---|---|
| CS5004 | DEEP LEARNING | 6.00 |
| CS5014 | DATA SCIENCE | 6.00 |
| CS5024 | THEORY AND PRACTICE OF ADVANCED AI ECOSYSTEMS | 6.00 |

Year 3 Summer

| Mod Code | Mod Name | Credits |
|---|---|---|
| ED5005 | Project Dissertation – Artificial Intelligence | 30 |

## Programme Participants

The programme is aimed at existing information technology professionals, and those migrating from associated disciplines with the necessary computing and mathematics competencies. The aim is to begin recruitment of participants in Spring 2019 for the Preparatory course to begin in September 2019 followed by the first year of the Masters programme in January 2020.

## Entry Requirements

The principal entry requirement for both the Masters course and the Preparatory Course is a Level 8 honours degree, at minimum second class honours (NFQ or other internationally recognised equivalent), in a relevant engineering, computing, mathematics, science or technology discipline.

Applicants from other disciplines who have a significant mathematics or computing (i.e. programming) element in their primary degree will also be considered.

Applicants who possess an honours undergraduate degree, at minimum second-class honours, or equivalent in a non-numerate discipline and have a minimum of three years experiential learning in an appropriate computing discipline (with a high level of either mathematics or programming) may also apply. Their admission to the program will be determined by the University of Limerick.

Applicants who do not meet the requirements above may be considered under the University of Limerick policy that allows for the recognition of Prior Learning, both formal and informal/experiential learning; nonaccredited personal and professional education; and work based training. As this is a highly technical Masters course such applicants must have sufficient competence in mathematics and computer programming to be able to participate

## Applications

**Initial Screening**

Initial applications are now being accepted for a start in September 2019. The application process initially requires that you send an up-to-date CV and letter of support from your company, directly to Technology Ireland ICT Skillnet at info@ictskillnet.ie

The more information you provide that demonstrates how you match the entry requirements – especially full and complete details of the qualifications you have obtained – the better your application can be assessed. If you do not meet all of the eligibility criteria there are a number of other options that are available for entry. You will be given details of these options after the initial screening process.

**Final Selection**

Once initial eligibility has been determined you will be advised of the outcome. If you meet the eligibility criteria you will be invited to make a “final application” which will involve submitting an online registration via the Admissions Office in University of Limerick. It is very important that you have your transcripts to hand at this stage as these will need to be submitted to the college for verification.

If you do not meet the eligibility criteria you will be invited to make a “RPL application” as a non-standard applicant under the RPL (Recognition of Prior Learning) process. This will also involve submitting an online registration via the Admissions Office in University of Limerick. You will then be advised what information will be required to support your application.

**Closing Date**

**The closing date for receipt of all applications is Friday 28th June 2019.**

The University of Limerick has sole discretion and is the final arbiter on who will participate. An applicant must be a citizen of Ireland, a EU or EEA country, and be resident in Ireland. A citizen of any other country may apply only if they are legally resident and employed in Ireland under a Stamp 4 Residence permit. Making an application is not a guarantee of selection. At all stages of the recruitment process, we will correspond with you by email. Please do not contact us by telephone as we do not have the capacity to deal with telephone

enquiries. Applications are treated in strictest confidence. Applicants accept that no feedback will be provided to them, or any other party, regarding the selection process nor will applicants be provided with any reason for their non-selection.

## Programme Partners