



**NUI Galway**  
**OÉ Gaillimh**

**College of Engineering & Informatics,  
Information Technology**

**New  
for 2019**

## **M.Sc. in Computer Science - Artificial Intelligence**

Artificial Intelligence is one of the most exciting and fastest growing areas of ICT industry and research. It has the potential to positively transform every aspect of all our lives, from smart cities and autonomous vehicles, through to improved healthcare services and low-carbon economies. It has the capacity to provide intelligent solutions that can help us to tackle many of today's greatest societal challenges.

NUI Galway is delighted to offer the new **M.Sc. in Computer Science - Artificial Intelligence**, which aims to equip students with the knowledge and skills required to pursue a career in Artificial Intelligence.

**Course level:** NFQ Level 9.

**Duration:** 12 months, full-time.

**Entry Requirements:**

This MSc is targeted at high-performing graduates of level 8 computer science programmes, or level 8 science / engineering programmes that provide extensive training in computing (e.g. object-oriented programming, modern software engineering and database development).

The minimum academic requirement for entry to the programme is a First Class Honours (or equivalent) from a recognised university or third-level college. However, a strong 2nd Class Honours (or equivalent) can be deemed sufficient on the recommendation of the Programme Director.

**Fees:**

Available online at: [www.nuigalway.ie/courses/taught-postgraduate-courses/computer-science-artificial-intelligence.html](http://www.nuigalway.ie/courses/taught-postgraduate-courses/computer-science-artificial-intelligence.html)

**Applying:**

Candidates are encouraged to apply as early as possible via [www.nuigalway.ie/courses/how-to-apply/](http://www.nuigalway.ie/courses/how-to-apply/)  
Assessment dates can be found under [www.nuigalway.ie/postgrad-admissions/key-dates/](http://www.nuigalway.ie/postgrad-admissions/key-dates/)

**Closing date:** Offers will be made on a continuous basis until the programme is full.

[www.nuigalway.ie/courses/taught-postgraduate-courses/computer-science-artificial-intelligence.html](http://www.nuigalway.ie/courses/taught-postgraduate-courses/computer-science-artificial-intelligence.html)



## M.Sc. in Computer Science - Artificial Intelligence

### Why study this programme?

The full-time M.Sc. in Computer Science - Artificial Intelligence is taught by renowned, interdisciplinary NUI Galway experts in the field. It covers over two semesters many complementary areas of Artificial Intelligence, including Meta-Heuristic Optimisation, Deep Learning, Autonomous Agents and Multi-Agent Systems.

Graduates will be excellently qualified to pursue new careers in Artificial Intelligence; such careers may include R&D opportunities in industry, PhD-level research, or the establishment of new ventures that provide leading-edge Artificial Intelligence solutions and products.

### Programme outline

The M.Sc. in Computer Science - Artificial Intelligence is a 1-year 90-ECTS course with three main elements:

- Foundational modules (35 ECTS)
- Advanced modules (25 ECTS), and
- A substantial capstone project (30 ECTS).

Foundational modules include: Machine Learning and Deep Learning; Natural Language Processing; Information Retrieval; Meta-Heuristic Optimisation; Ethics in Artificial Intelligence; Autonomous Agents and Multi-Agent Systems.

Advanced modules include: Programming and Tools for Artificial Intelligence; Knowledge Representation & Statistical Relational Learning; Data Visualisation; Programming for Data Analytics; Web & Network Science; Embedded Image Processing; Tools and Techniques for Large Scale Data Analytics; Research Topics in Artificial Intelligence.

From semester II onwards, students work on individual projects and submit them in August. Projects may have a research or applied focus.

### Employment & Career opportunities.

Artificial Intelligence skills will be required in every industry and could create – according to a recent Forbes report – globally up to 22 million new jobs by 2022. The World Economic Forum estimates that by 2025 machines are expected to perform more current work tasks than humans compared to 71% being performed by humans today, and their recent report concludes that artificial intelligence, robotics and smart automation technology could contribute up to \$15 trillion to global GDP by 2030.

*“Artificial Intelligence is the key behind the revolution that is taking place both in ICT and automotive. In automotive it is the enabler that will bring us from driving assistance functions to fully autonomous driving. Graduates with the skills to apply the latest Artificial Intelligence techniques and push the boundaries are highly sought after.”*

**Dr. Catherine Enright**, Vision Fusion Software Team Manager with Valeo Vision Systems



### Find out more/ Enquiries to:

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Web: [www.nuigalway.ie/courses/taught-postgraduate-courses/computer-science-artificial-intelligence.html](http://www.nuigalway.ie/courses/taught-postgraduate-courses/computer-science-artificial-intelligence.html)