



# MSc Responsible Artificial Intelligence

**New College of  
the Humanities**



## Introduction

The field of Artificial Intelligence (AI) is expanding exponentially as a result of technological advances in software, hardware, and algorithmic techniques. As a result, there is an emerging need for these technologies to be further informed by ethical and political considerations.

In a world where AI prevails, organisations will increasingly require graduates who combine expertise in the development and implementation of machine learning applications with a keen understanding of societal and ethical considerations, and the ability to communicate.

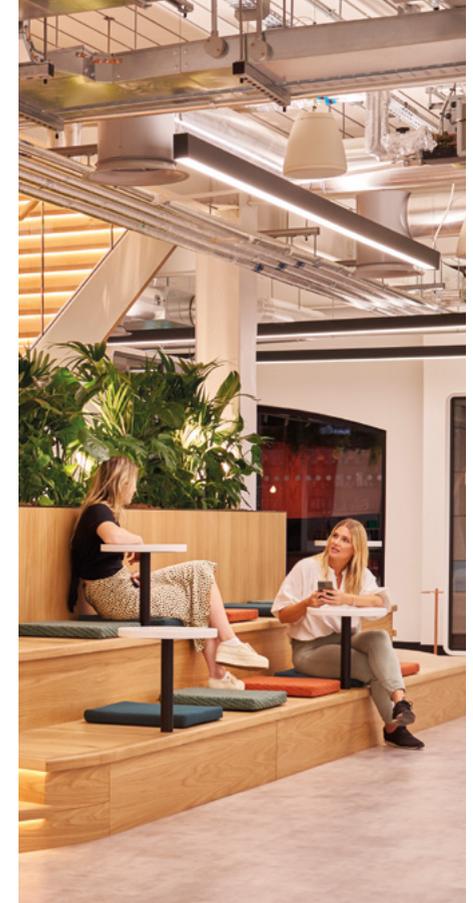
The MSc Responsible Artificial Intelligence teaches you the computational and programming techniques that underpin contemporary AI, while providing a philosophical grounding in the field.

## Research at NCH

Research at NCH is truly interdisciplinary, with philosophers, historians, lawyers, and English, politics and economics scholars working hand-in-hand with technical experts in data science and artificial intelligence.

Research areas span ethics in AI, urban and global analytics, higher education in the twenty-first century and global sustainability. In 2022, NCH will become the European centre for Northeastern University's (US) Network Science Institute. NCH's research showcases the power and importance of the humanities in the digital age. Recent research awards and highlights include:

Entwining the disciplines of philosophy and computer science, the research project PolyGraphs: Combating Networks of Ignorance in the Misinformation Age, seeks to explore misinformation in the age of social media. The two-year, £100,000 project, funded by the British Academy, Royal Society and the Leverhulme Trust, led by Dr Brian Ball and Dr Alexandros Koliouisis at NCH, and in collaboration with the University of Bristol, will employ computer simulations of large, realistic social networks to explore the complex dynamics of ignorance within groups.



Wittgenstein, arguably one of the most important twentieth century philosophers (documented in Wittgenstein: A Very Short Introduction by Prof. A.C. Grayling, founder of NCH) will be the focus of an international research community at NCH this summer. The correlation between Wittgenstein's philosophical theories and how they relate to artificial intelligence theories of today will be explored in the 11th British Wittgenstein Society Conference on the theme of Wittgenstein and AI, hosted by NCH in July 2022.

# Your Courses

## Full time – 1 year

### Michaelmas:

- Discrete Structures (15 credits)
- Programming with Data (15 credits)
- AI & Data Ethics (15 credits)
- Begin Dissertation Project (60 credits)

### Hilary:

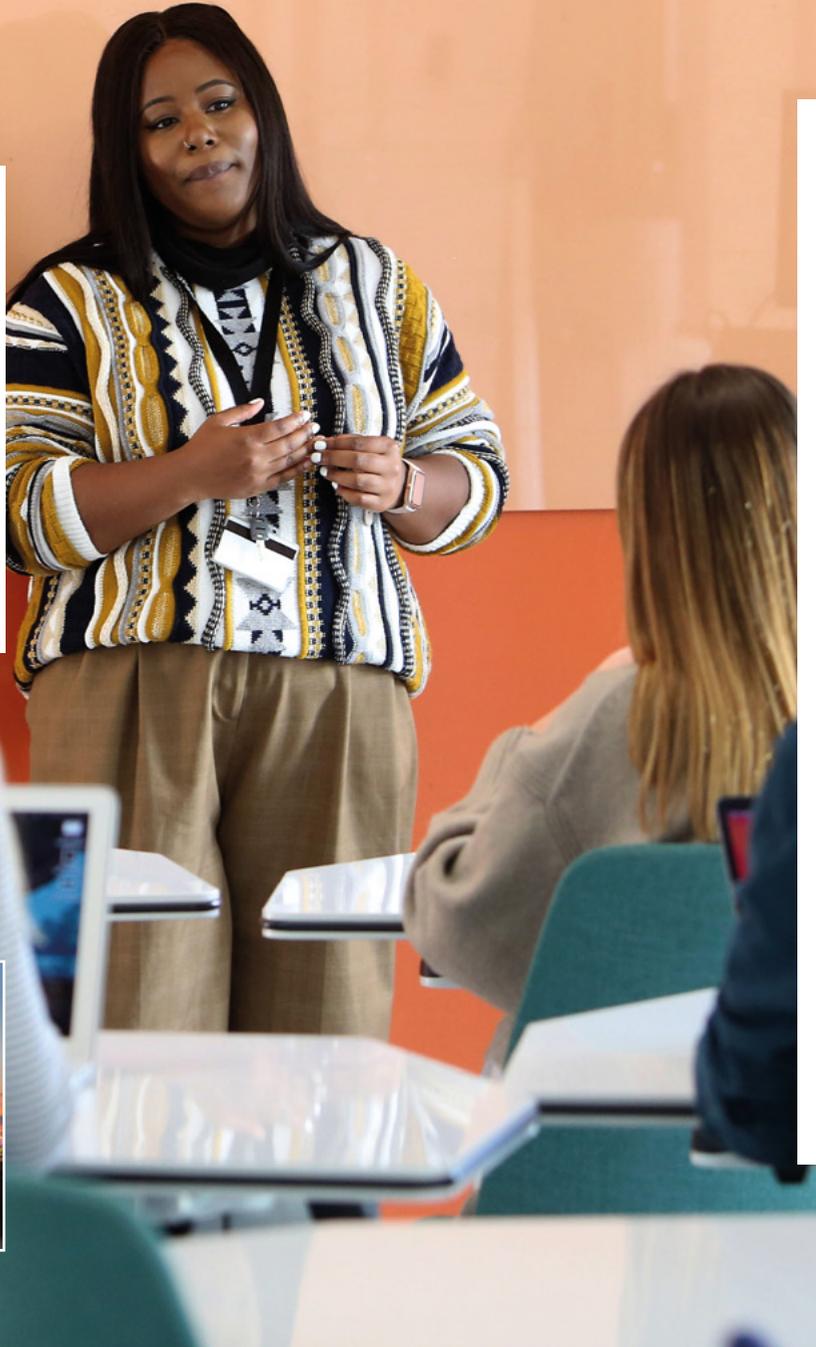
- Object-Oriented Design (15 credits)
- Foundations of Data Science (15 credits)
- Continuation of Dissertation Project (60 credits)

### Plus ONE of the following:

- Minds & Machines (15 credits)
- Technology & Human Values (15 credits)

### Trinity:

- Natural Language Processing (15 credits)
- Principles of Machine Learning (15 credits)
- Complete Dissertation Project (60 credits)



## Part-time – 2 year

### YEAR 1 – Michaelmas:

- Discrete Structures (15 credits)
- Programming with Data (15 credits)

### Hilary:

- Object-Oriented Design (15 credits)
- Foundations of Data Science (15 credits)

### Trinity:

- Natural Language Processing (15 credits)
- Principles of Machine Learning (15 credits)

### YEAR 2 – Michaelmas:

- AI & Data Ethics (15 credits)
- Begin Dissertation Project (60 credits)

### Hilary:

- Continuation of Dissertation Project (60 credits)

### Plus ONE of the following:

- Minds & Machines (15 credits)
- Technology & Human Values (15 credits)

### Trinity:

- Complete Dissertation Project (60 credits)

The courses above are subject to change in line with faculty availability and student demand so there is no guarantee every course will be delivered. For further information, please speak to your admissions contact and visit: [www.nchlondon.ac.uk/notice](http://www.nchlondon.ac.uk/notice)

## Preparing for your course

We encourage you to do a little preparation in advance of starting with us in September to gain an understanding of what is involved in the study of Responsible AI.

We recommend that you practice programming in Python, building data analytics applications with Pandas and machine learning applications with SciKit-Learn or similar libraries.

This is not compulsory but we do believe you will find it easier to adjust to postgraduate study with a broad understanding of the concepts covered in your degree. At this stage, it is best to gain a general view rather than attempt to acquire a detailed understanding of any specific topic.

## Meet the Programme Director



Alexandros Koliouis is an associate professor of computer science at the New College of the Humanities at Northeastern. His current research interests lie at the intersection of scalable data systems and deep learning.

Koliouis has worked on the design and implementation of high-performance data-parallel multi-GPU processing systems in the areas of deep learning and data stream processing. He has also researched topics including efficient natural language processing in hardware, complex event processing for home network management, and routing systems for wireless sensor networks.

Before joining Northeastern's London affiliate, Koliouis held an industry research position at the semiconductor company Graphcore and academic positions at the Imperial College London and the University of Glasgow. He earned his doctoral degree in computing science and his Master of Science in advanced computing science from the School of Computing Science at the University of Glasgow.

## Chat on UniBuddy

Chat to current students to find out what NCH is really like!

Have questions about:

- Employability options
- Admissions
- Funding
- Well being
- Accommodation

Contact your admissions contact or email us at: [info@nchlondon.ac.uk](mailto:info@nchlondon.ac.uk)

Have you followed us on social media yet? [@nchlondon](#)



This document is prepared ahead of the academic period to which it relates to provide potential students with an overview of the programmes for which they are applying. As a result, there may be infrequent occasions when the College is unable to offer individual courses, degree programmes, or services described herein. Furthermore, the College reserves the right to withdraw individual courses or degree programmes where there is an insufficient number of applications or confirmed students to make the course viable. On such occasions, students will be informed of changes within a reasonable timescale and another individual course or degree programme will be offered, which will have equal academic benefit to the course or degree programme originally described.

From time to time, individual faculty members may stop teaching at the College. In such instances, the College will undertake reasonable endeavours to ensure that students are taught by another academic with an appropriate level of qualification, research interests, and experience.

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