ARTIFICIAL INTELLIGENCE - M.S.

College of Arts and Sciences
Department of Computer Science
www.kent.edu/cs

About This Program

The Master of Science in Artificial Intelligence program provides rigorous training in the theory and application of AI, equipping you with the skills to develop intelligent systems that can solve complex problems in a variety of fields. With access to state-of-the-art technology and experienced faculty, you will gain the knowledge and practical experience needed to make an impact in this rapidly growing field. Read more...

Contact Information

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- Connect with an Admissions Counselor: U.S. Student | International Student

Program Delivery

- **Delivery:**
  - In person
- **Location:**
  - Kent Campus

Examples of Possible Careers and Salaries*

Computer and information research scientists

- 15.4% much faster than the average
- 32,700 number of jobs
- $126,830 potential earnings

Software developers and software quality assurance analysts and testers

- 21.5% much faster than the average
- 1,469,200 number of jobs
- $110,140 potential earnings

Data scientists and mathematical science occupations, all other

- 30.9% much faster than the average
- 33,200 number of jobs
- $98,230 potential earnings

* Source of occupation titles and labor data comes from the U.S. Bureau of Labor Statistics' Occupational Outlook Handbook. Data comprises projected percent change in employment over the next 10 years; nation-wide employment numbers; and the yearly median wage at which half of the workers in the occupation earned more than that amount and half earned less.

For more information about graduate admissions, visit the graduate admission website. For more information on international admissions, visit the international admission website.

Admission Requirements

- Bachelor's degree from an accredited college or university
- Minimum 3.000 undergraduate GPA on a 4.000-point scale
- Course Proficiency: Successful course completion of high-level algebra, geometry and calculus (equivalent to MATH 12002, MATH 12003, MATH 21001)[1]
- Official transcript(s)
- GRE scores
- Résumé
- Goal statement
- Two letters of recommendation
- English language proficiency - all international students must provide proof of English language proficiency (unless they meet specific exceptions to waive) by earning one of the following:[2]
  - Minimum 71 TOEFL iBT score
  - Minimum 6.0 IELTS score
  - Minimum 50 PTE score
  - Minimum 100 DET score

Highly qualified students lacking preparation in some standard areas may be considered for admission on a case-by-case basis.

[1] Recommended but not required: Successful course completion in computer programming, discrete structures, data structures and abstraction, operating systems, database and computer algorithms (equivalent to CS 13011, CS 13012, CS 23001, CS 23022, CS 33007, CS 33211, CS 46101)

[2] International applicants who do not meet the above test scores may be considered for conditional admission.

Application Deadlines

- **Fall Semester**
  - Application deadline: June 15
- **Spring Semester**
  - Application deadline: November 1
- **Summer Term**
  - Application deadline: April 1

Applications submitted after these deadlines will be considered on a space-available basis.

Program Requirements

Major Requirements

Code	Title	Credit Hours
Major Requirements		
CS 53302	ALGORITHMIC ROBOTICS	3
or CS 67302	INFORMATION VISUALIZATION	
CS 54201	ARTIFICIAL INTELLIGENCE	3
CS 54202	MACHINE LEARNING AND DEEP LEARNING	3
CS 63005	ADVANCED DATABASE SYSTEMS DESIGN	3
CS 64201	ADVANCED ARTIFICIAL INTELLIGENCE	3
Major Electives, choose from the following:		9

CS 53301	SOFTWARE DEVELOPMENT FOR ROBOTICS	
CS 53302	ALGORITHMIC ROBOTICS	
CS 53303	INTERNET OF THINGS	
CS 53305	ADVANCED DIGITAL DESIGN	
CS 53334	HUMAN-ROBOT INTERACTION	
CS 63015	DATA MINING TECHNIQUES	
CS 63016	BIG DATA ANALYTICS	
CS 63017	BIG DATA MANAGEMENT	
CS 63018	PROBABILISTIC DATA MANAGEMENT	
CS 63100	COMPUTATIONAL HEALTH INFORMATICS	
CS 63306	EMBEDDED COMPUTING	
CS 64401	IMAGE PROCESSING	
CS 64402	MULTIMEDIA SYSTEMS AND BIOMETRICS	
CS 65203	WIRELESS AND MOBILE COMMUNICATION NETWORKS	
CS 67301	SCIENTIFIC VISUALIZATION	
CS 67302	INFORMATION VISUALIZATION	
Culminating Requirement		
Choose from the following:		6
CS 69099	CAPSTONE PROJECT	
CS 69099 & CS 69192	CAPSTONE PROJECT and GRADUATE INTERNSHIP	
CS 69199	THESIS I	
Minimum Total Credit Hours:		**30**

Progression Requirements

- Students should complete a minimum of two required courses and either CS 53302 or CS 67302 before taking elective courses.
- Students must maintain a minimum 3.000 GPA. Students earning less than a 3.000 GPA or earning a C grade or lower in two courses will be placed on academic probation.

Graduation Requirements

Minimum Major GPA	Minimum Overall GPA
-	3.000

- No more than one-half of a graduate student's coursework may be taken in 50000-level courses.
- Grades below C are not counted toward completion of requirements for the degree.

Program Learning Outcomes

Graduates of this program will be able to:

1. Combine intelligent analytics and automation, human-computer interaction and robotics techniques to optimize and automate transportation, industrial processes and/or healthcare processes.
2. Apply machine learning techniques on big data to predict, classify, data mine and explore patterns.
3. Apply intelligent visualization and Internet-based techniques for smart homes and communities.
4. Perform research, discovery and integration by applying knowledge of artificial intelligence theory and techniques.

Full Description

The Master of Science degree in Artificial Intelligence prepares students with a focused educational and research environment to develop career paths through necessary learning and training with emerging artificial intelligence technologies and applications to intelligent analytics, smart homes and communities and robotics and automation. Graduates have technical knowledge and research and development skills necessary for applying artificial intelligence to industry, community and military. These areas include sectors requiring intelligent pattern-analysis of big data such as retail, healthcare, biology, psychology and intelligent human-machine interactions and interfaces.