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
- Arvind Bansal | gradinfo@cs.kent.edu | 330-672-9047
- 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

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)
- 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:
  - 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

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>CS 53302</td>
<td>ALGORITHMIC ROBOTICS</td>
<td>3</td>
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<tr>
<td>or CS 67302</td>
<td>INFORMATION VISUALIZATION</td>
<td></td>
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<tr>
<td>CS 54201</td>
<td>ARTIFICIAL INTELLIGENCE</td>
<td>3</td>
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<tr>
<td>CS 54202</td>
<td>MACHINE LEARNING AND DEEP LEARNING</td>
<td>3</td>
</tr>
<tr>
<td>CS 63005</td>
<td>ADVANCED DATABASE SYSTEMS DESIGN</td>
<td>3</td>
</tr>
<tr>
<td>CS 64201</td>
<td>ADVANCED ARTIFICIAL INTELLIGENCE</td>
<td>3</td>
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Major Electives, choose from the following:

Artificial Intelligence - M.S.
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

<table>
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<tr>
<th>Minimum Major GPA</th>
<th>Minimum Overall GPA</th>
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<td>3.000</td>
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- 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.