



GRADUATE STUDIES

Computer Science



JOIN OUR COMMUNITY OF SCHOLARSHIP AND RESEARCH

The Department of Computing Sciences graduate programs are designed for people who wish to update their skills and advance their careers as computing professionals, or for students who wish to complete a master's degree and matriculate to a doctoral degree at another university.

MASTER OF SCIENCE IN COMPUTER SCIENCE

The MS in Computer Science provides expertise in applied and basic computing through its course offerings in computer systems, theory, languages and algorithms. With this degree you can:

- Expand your undergraduate preparation and enhance your career options
- Acquire formal credentials in computing when a career path has changed focus and requires more preparation
- Update an old undergraduate degree and bring skills and knowledge up to date with the industry
- Prepare for a doctoral program at another university

IMMERSIVE TECHNOLOGY AND RESEARCH FACILITIES

Our National Science Foundation-funded virtual reality CAVE facility uses immersive video for telepresence applications as well as:

- Computer-generated graphics for 3D visualization
- Object capture facilities
- AR/MR/VR application development
- 3D printing facility

WHAT OUR STUDENTS SAY

"I had a decade of experience as a software engineer before starting the Computer Science program at Villanova, but I quickly realized that while I was an expert in my particular area, I had a lot to learn when ventured outside of my sweet spot. Villanova prepared me for the entire field rather than one niche area. Not a day goes by where I don't utilize the skills I learned in the program." —Kevin Cloutier '17 MS



EXPLORE OUR CURRICULUM

A complete listing of courses, degree and certificate offerings is available at csc.villanova.edu. Recent course offerings include:

- Cybersecurity
- Machine Learning
- Deep Learning
- Game Development
- Text Mining
- Cloud Computing
- Digital Forensics
- Information Security
- DevOps Tools & Techniques
- Containers & Microservices
- Internet of Things
- Software Studio
- Project Management
- Software Quality Assurance
- Health IT & eHealth Systems

DISTINGUISHED FACULTY

All full-time faculty have doctoral degrees in computing science or a related field, and are joined by qualified adjunct faculty who bring the perspective of current industry trends.

Research Areas

Artificial Intelligence

- Text Mining
- Computer Vision
- Machine Learning

Database Systems

- Data Modeling
- Data Mining
- Big Data Analytics

Distributed Systems and Networks

- Cloud Computing
- Wireless Networks

Graphics and Immersive Systems

- Computer Graphics
- Virtual Reality
- Game Design and Applications

Information Systems

- Digital Libraries
- Visualization
- Multimedia
- Ontologies
- Semantic Web

Programming Languages and Implementations

- Compiler Optimization
- Nanocompilers

Software Engineering

- Human-Computer Interaction
- Object-oriented Modeling
- Security, Privacy and Ethics
- Software Process Improvement

Systems Modeling and Simulation

- System of Systems
- Colored Petri Nets
- Process Modeling

Theory

- Algorithms
- Computational Geometry
- Computability
- Logic

FOR MORE INFORMATION OR TO APPLY:

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