

Message from Interim Dean Mili



Three developments of the last few decades have done more to alter the course of human history than perhaps anything in the prior millennia, and all three are related to computing: the invention of the computer in the middle of the twentieth century, the invention of the internet at the end of the twentieth century, and the emergence of artificial intelligence and machine learning that we are witnessing nowadays. Today computers and computer applications play a pivotal role in the life of modern society, and this role is expected to grow in importance as AI applications take on more and more roles and duties that were heretofore considered the exclusive domain of human agents.

As a site of computing research and education, NJIT's Ying Wu College of Computing (YWCC) reflects NJIT's commitment to be a meaningful participant in the evolution of computing technology. YWCC's department of computer science is the site of state of the art research into the design, implementation and analysis of computing systems. YWCC's department of data science is the site of research into the analysis, synthesis and use of the massive amounts of data that are made available nowadays by the ubiquity of computing and communication resources. And our Informatics department is the site of advanced research on the potential and pitfalls of computing technology, its impact on society, and its integration into organizational structures.

The Ying Wu College of Computing offers a wide range of degree programs in computer science, information systems, information technology and data science, including eight BS programs, nine MS programs, twelve certificate programs and three PhD programs. With more than 4,500 students, and more than 1,100 graduates in 2023, YWCC is the largest producer of computing talent in the tri-state area (NJ, NY, CT). Also, 30 percent of computing professionals in the state of New Jersey are graduates of our educational programs.

With its broad, diverse offering of educational programs, its dynamic industrial affiliates program, its world class faculty and instructional staff, and its active research centers and institutes, the Ying Wu College of Computing offers a vibrant intellectual environment for education, research and scholarship.

Ali Mili, Professor
Interim Dean, Ying Wu College of Computing
New Jersey Institute of Technology

Shape the Future at Ying Wu College of Computing

Ying Wu College of Computing (YWCC) at NJIT prepares students for exciting careers and leadership positions in today's competitive high-tech sector. As the only college dedicated to computing in New Jersey, and one of the few in the U.S., YWCC builds on two decades of experience in computing education and research. The college has produced more than **12,000** graduates, many of whom have gone on to distinguished careers at **Fortune 500** companies and leading academic institutions around the country — and around the world.

At YWCC, we offer undergraduate and graduate-level programs in a broad range of computing and information technology disciplines. Our programs are led by faculty with experience in both academia and industry who bring their own knowledge and experience into the classroom and provide a rigorous and relevant curriculum. These programs provide a world-class, practice-based and research-supported education that translates immediately into expertise valued in the workplace.

The YWCC Advantage

Access to Opportunity. Our campus is located in Newark, N.J., part of the New York/New Jersey metropolitan area, home to the world's financial hub and thousands of tech companies and only 10 miles from New York City.

Real-World Experiences. Our programs provide students with opportunities to apply the knowledge and tools acquired in the classroom to real-world problems and gain relevant work experience.

Industry Partnerships. Multiple alliances with industry create exceptional career opportunities for our students at leading companies such as Google, Facebook, Microsoft, Bloomberg, Prudential, Barclays, Johnson & Johnson and more.

Distinguished Faculty. World-class faculty with experience in both academia and industry who teach a rigorous and modern curriculum in cutting-edge areas, from artificial intelligence and big data analytics to cybersecurity, gaming and virtual reality.

NJIT@Jersey City. Located five minutes from New York City, our additional location in Jersey City offers our most popular graduate-level programs for working professionals to upgrade their skillset.

At a Glance

#1

of 15 Best Colleges
for Computer/Information
Systems in New Jersey

-College Factual

1,100/year

Largest number of computing
graduates among all universities
in New York metro area

-Stats on 2023 enrollment

\$87,428

Average
Starting
Salary 2022
Graduates

30

Average
Class Size

At YWCC, we have three departments with one shared mission:

To inspire, nurture and educate the next-generation of technology leaders.

Department of Computer Science

Computer science is transforming our world. Its effects are felt in every industry and benefit every aspect of daily life. From medicine to manufacturing, entertainment to engineering, the technology that defines our global society begins with a computer scientist.

The Department of Computer Science aims to provide a deep understanding of computational thinking and the skills needed to develop reliable and scalable software systems.

The department offers B.S., M.S. and Ph.D. programs that provide a strong computing foundation — from technical skills such as programming and algorithmic thinking to nontechnical skills such as problem-solving, communications and project management. Students are taught to attend to both the critical details and the big picture so they can design, develop and implement software and systems that meet current and emerging personal and business needs.

Department of Data Science

Data science is the study and practice of analytic computational methods to extract information, knowledge and structure from large data sets that can then be used for reasoning and problem-solving in the digital world. It has growing applications in health and medicine, finance, genomics, social networks, cybersecurity, journalism and practically every science and engineering field where data is collected.

Graduates of the B.S. and M.S. programs in Data Science are prepared to meet the critical and growing need for a workforce trained in data science in industry, research labs and government. Students will acquire skills to handle the entire pipeline of data processing, such as data collection, data storage, data representation, knowledge extraction from data, data visualization, data mining and analytics, machine-learning algorithms, artificial intelligence and data privacy.

Department of Informatics

Informatics is about the intersection of human, technological and organizational systems. It's about using computing technology to solve problems and power the systems that drive people and their modern enterprises. It is also about understanding and facilitating the connection between people, digital technology and computers to live, play and do business in ways never before possible.

The Department of Informatics prepares students for success in an increasingly digital-centric world of information systems. It also educates in the ubiquitous practices of information technology, which every modern organization requires to operate on a daily basis.



Degrees & Certificates

Undergraduate

- B.A. in Information Systems
- B.S. in Business and Information Systems
- B.S. in Computer Science
- B.S. in Computing and Business
- B.S. in Data Science
- B.S. in Human-Computer Interaction
- B.S. in Information Technology
- B.S. in Web and Information Systems

Graduate

- M.S. in Artificial Intelligence
- M.S. in Business and Information Systems
- M.S. in Computer Science
- M.S. in Computing and Business
- M.S. in Cybersecurity & Privacy
- M.S. in Data Science
- M.S. in Information Systems
- M.S. in IT Administration and Security
- M.S. in Software Engineering

Graduate Certificates

- Artificial Intelligence
- Big Data Essentials
- Business and Information Systems Implementation
- Computer Science
- Data Mining
- Data Visualization
- Foundations of Cybersecurity
- Information Security
- IT Administration
- Network Security and Information Assurance
- Software Engineering, Analysis, and Design
- Web Systems Development

Doctoral

- Computer Science
- Data Science
- Information Systems

NJIT@JerseyCity

To meet the growing demand for professionals with computational skills necessary to analyze, discover and innovate in a digital world, YWCC offers graduate-level programs in artificial intelligence, business and information systems, computer science, data science, information systems and cybersecurity & privacy at NJIT@JerseyCity.

Located at 101 Hudson Street in the Exchange Place section of the Jersey City Waterfront, NJIT@JerseyCity is an ideal location for working professionals looking to pursue part-time studies that will elevate them in the workplace or help them transition to new, cutting-edge career opportunities.

Degrees & Certificates

Graduate Degrees

- M.S. in Artificial Intelligence
- M.S. in Business and Information Systems
- M.S. in Computer Science
- M.S. in Cybersecurity & Privacy
- M.S. in Data Science
- M.S. in Information Systems

Graduate Certificates

- Artificial Intelligence
- Computer Science
- Data Mining
- Data Visualization
- Big Data Essentials
- Foundations of Cybersecurity



Photo: Massimiliano Clari

Research

As an R1 Research University, the highest rating awarded by the Carnegie Classification®, research is an extensive and fundamental part of the college's activities. Our team of faculty and Ph.D. student researchers has grown significantly in the last decade. As experts in the fields of computer science, data science, artificial intelligence, cybersecurity, cloud computing and more, these talented individuals are responsible for developing new technologies and applying them to build smart cities, mitigate privacy breaches, power predictive analytics in business and reform the delivery of personalized health care.

Spanning a wide spectrum of topics, from human-computer interaction and cybersecurity to sophisticated data science algorithms, the research conducted by YWCC faculty and students ranges from deep computational theory to very practical applications.

At YWCC, we welcome new ideas, collaborations and any form of research partnership imaginable. That is why we also encourage students to participate in research projects both at the undergraduate and graduate levels while earning academic credit, or in some cases, as paid research assistants. Ph.D. students engage in research as their primary activity, usually while functioning as teaching assistants.

Much of the research activity at YWCC is funded through competitive grants awarded by government agencies and industry contracts, published in top international venues and, in some cases, patented and commercialized. Committed to sharing beyond publication, YWCC researchers make much of the software developed in their projects available to the general scientific community through open-source repositories.





Industry Connections

YWCC students can take advantage of our extensive corporate network for career development, internship and job opportunities, hands-on experiences and networking events designed to forge and foster professional relationships outside the classroom.

Capstone Program

The industry-sponsored Capstone program is a project-based learning experience where interdisciplinary teams of students work together over the course of a semester to solve a real-world technological problem. The program provides the students an opportunity to apply the knowledge and tools acquired during their studies to real solutions. Capstone enables industry sponsors to explore new technologies and solutions through proofs-of-concept and prototypes and to interact with talented students who may be their future employees.

Co-op Program

The Co-op program provides students with real-world experiences that allow them to work in paid industry positions while earning credit for their undergraduate or graduate degree. During a co-op experience, a student works alongside internal teams to develop computing solutions and design systems that support specific business goals and objectives. They also establish valuable professional relationships, bring the knowledge and skills learned in the classroom to real-world situations and develop a deeper understanding of their field. It is not uncommon for a co-op student to be invited back by a company to continue their work, either through another co-op opportunity or through permanent employment upon graduation. Many recent co-op participants have launched their post-graduation careers at a company that sponsored their co-op experience.

Student Organizations

Student organizations offer the opportunity to discover an active community of like-minded peers, participate in extra-curricular activities and develop team-building and leadership skills — important strengths both inside and outside of the classroom.

ACM Student Chapter

The Association for Computing Machinery (ACM) is the world's largest educational and scientific computing society. The NJIT ACM student chapter serves the student community by offering workshops, tutoring sessions and hackathons where students come together to study and collaborate on topics of their choice. Some examples are HackNJIT, SIG Android, Algorithms, Linux and Reverse Engineering.

Women in Computer Science

NJIT's Women in Computer Science (WiCS) club promotes and supports the growing community of women who aspire to be software engineers. Members participate in mentorship programs, network with other female students and participate in professional development activities through networking events, tech talks and our alumni network. The group also participates in the annual national Grace Hopper Celebration event and organizes the annual GirlHacks Hackathon.



The NJIT Difference

As one of the nation's leading public polytechnic universities in Science, Technology, Engineering and Mathematics (STEM) education, as well as business, architecture and design, New Jersey Institute of Technology has earned national prominence by developing high-quality, relevant academic programs that provide our students the edge they need to become leaders in the technology-dependent economy of the 21st century. At NJIT, students acquire a world-class education in an immersive learning environment that combines the benefits of small-campus intimacy with the resources of a public research university.

Fast Facts

#2

Public University
- The Wall Street Journal
/College Pulse

#28

Nationally
Top Public Colleges
- Forbes

Top 2%

In Return
on Investment
- PayScale.com



“ NJIT felt like the proper place for me to learn everything I needed to know about computer science. ”

Jasper Davey
Software Engineer, Apple

“ The computer science curriculum helped me gain the experience I needed to know about design and develop software systems. ”

Chaitrali Rane
System Analyst, New Jersey
Institute of Technology

“ I truly enjoyed the teaching approach at NJIT. Professor Suresh Kumar's 'road to entrepreneurship' class was phenomenal – I use those concepts even today in my daily life. ”

Braulio Tonaco
Software Engineer, Barclays

“ My experience at NJIT was extremely rewarding. Not only did I learn all the essentials of web design and information systems, but the professors really pushed me to do my best. ”

Brittani Rubil
Web Developer, Thorlabs

“ Coming to NJIT and working with my advisor Prof. Grace Wang was the best choice I made. Now I work with graduates from MIT, CMU and other Ivy League schools at Facebook's Machine Learning group and I am so proud I am from NJIT! ”

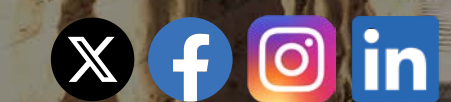
Xiaoyaun Liang
Ph.D., Research Scientist, Facebook

“ Completing both my B.S. in Computer Science and M.S. in Data Science at NJIT helped prepare me to launch a successful career in today's job market. Working with Dr. Amy Hoover to complete my Master's thesis was a truly rewarding and unforgettable experience to enhance my coursework. ”

Connor Watson
Data Engineer, UBS

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