Computer Science

Overview

Major in computer science and you become an experienced problem solver who is well-versed in computing theory and familiar with a variety of programming paradigms. You gain substantive research experience and learn how to think independently. The major integrates seamlessly with the College's liberal arts curriculum and many students double major in areas as diverse as biology, music, psychology and art. Some also pursue their studies with the College's Ammerman Center for Arts and Technology. Whether your experience with computers is minimal or extensive, the Computer Science Department encourages you to learn, be challenged and have fun.

Research Opportunities

Research is a priority for computer science majors. It allows you to immerse yourself in a topic of interest, contribute to the advancement of the field and prepare for graduate studies and future employment. Recent topics include entertainment software design, realistic avatar development, game agent learning, robot colony experiments, algorithmic game theory, music alignment, tonal classification, visualization, image and sound processing, algorithms for routing and scheduling, mobile device tour system development, and bioinformatics. Students have presented their work at conferences across the globe. You are expected to complete at least two semesters of research.

Facilities

If you're doing research or taking an advanced course, you have 24/7 access to campus labs. Facilities include standard UNIX and PC labs, as well as labs in robotics, multimedia and digital signal processing, and graphics and virtual reality. The robotics lab is equipped with workbenches, construction tools, a laser cutter, a 3D printer, robots and a colony space. The multimedia and signal processing lab has high-end graphics workstations, head-mounted displays, force feedback devices, development environments for multimedia content processing and software for producing animations. The graphics and virtual reality lab has high-end graphics workstations, 3D trackers, a full-body motion capture system, touch screen monitors, wearable computing devices, 3D camera and a 4.5 x 12-foot 3D visualization wall.

Amanda Crawford

Q: Why Connecticut College?
A: I was initially attracted to the beauty of the campus. But after paying a visit I was impressed by the diversity of the intellectual community and the possibilities that Connecticut College has to offer.

Q: What is it like to study science here?
A: Being a student in the physical sciences at Connecticut College, I am not only given the opportunity to conduct research, but I also have learned to connect my scientific knowledge to the society that we live in today. I took my first computer science course my sophomore year and was introduced to a world where I could tackle computer-based problems with real-world applications and solutions.

Q: Did you study abroad?
A: I participated in a service trip to South Africa over spring break my junior year. I volunteered and researched South Africans' daily activity, specifically the advantages and disadvantages of certain types of technology for physical labor.
Faculty

Christine Chung, Jean C. Tempel ’65
Associate Professor of Computer Science
B.A., M.Eng., Cornell University; M.A.,
Columbia University Teachers College;
Ph.D., University of Pittsburgh
Algorithm design and analysis; algorithmic
game theory

Ozgur Izmirli, Professor of Computer
Science
B.S., M.S., Ph.D., Middle East Technical
University
Content analysis of music audio; music
information retrieval; music perception
and cognition modeling; multimodal
computer-user interfaces

Gary Parker, Professor of Computer Science;
Chair of Computer Science Department
B.A., University of Washington; M.S.,
Naval Postgraduate School; Ph.D.,
Indiana University
Artificial intelligence; cognitive science;
colony robotics; autonomous agent
learning; evolutionary robotics; genetic
algorithms; multilegged robots;
interactive video games

Stephen Winters-Hilt, Visiting Associate
Professor
B.S., M.S., California Institute of
Technology; Ph.D., University of
Wisconsin; Ph.D., UCSC
Bioinformatics; machine learning;
genome analysis; signal processing;
pattern recognition; nanopore detector
cheminformatics

S. James Lee, Assistant Professor of
Computer Science
B.S., M.S., Yonsei University, Korea;
M.F.A., Ph.D., Computer Science and
Electronic Visualization Laboratory
(EVL), University of Illinois at Chicago
Computer graphics and visualization
for interactive applications such
as computer games, virtual reality
environments, autonomous interactive
characters, and museum installations;
avatars

Selected Courses

Introduction to Computer Science and Problem Solving; Data Structures;
Computer Organization; Algorithms; Computer Networks; Operating
Systems; Graphics and Virtual Reality; Digital Design; Multimedia;
Machine Learning and Data Mining; Robotics; Bioinformatics; Digital
Sound Processing; Artificial Intelligence; Computational Intelligence;
Entertainment Software Design and Development

About Connecticut College

Connecticut College educates students to put the liberal arts into action
as citizens in a global society. A leader in the liberal arts since 1911,
the College is home to nationally ranked programs for internships,
community action, arts and technology, environmental studies and
international studies. Our beautiful 750-acre arboretum campus is
located in the historic New England seaport community of New London,
Conn.

WHAT CAN YOU DO
WITH A MAJOR IN
COMPUTER SCIENCE?

Software Engineer, Amazon.com
Calc Engine Analyst, Hewitt Associates
Consumer Analytics, PepsiCo Inc.
Chief Technology Officer, Concentric, Inc.
Principal Engineer, FireEye Inc.
Software Test Developer, Aircell
Business Intelligence Consultant,
GNA Software Consulting
Engineer,
United Technologies Research Center
Software Developer, Epic
Applications Consultant,
Veson Nautical Corp.
Software Developer, Jibunu
Application Developer,
Nevo Technologies Inc.
Engineer, TripAdvisor
Engineering Manager, Google Inc.
Technology Analyst,
Boston Museum of Science
Tech Support Analyst, Bullhorn

EXAMPLES OF STUDENT
RESEARCH IN
COMPUTER SCIENCE

Gyanendra Sharma ’13
Score following: aligning sheet music to
audio recordings

Mohammad Khan ’17
Distributed neural network: dynamic
learning via backpropagation with
hardware neurons using Arduino chips

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