



CONNECTICUT COLLEGE

Alex Marcus '10

Computer Science



Q: How did you choose your major?

A: In high school I took and really enjoyed AP computer science, which provided me with some direction when I came to Connecticut College. After taking a few computer science classes at the College, I knew that it was the major for me.

Q: What are your relationships like with your professors?

A: My professors are awesome. They are some of the most open and knowledgeable people I've worked with in my academic career. The entire department makes an effort to be available to students as much as possible by having out-of-class meetings and extensive office hours. The department also goes out of its way to make the major fun, so I've been to a fair number of computer science parties, outside professor lectures and other events.

Q: Where have you interned?

A: I interned at TJX Companies Inc., working in the technical support department and the IT department. At TJX I did standard desktop support and helped deal with the technological repercussions of hacker break-ins.

Q: What type of research have you done?

A: I worked on the Humanitarian Free Open Source Software (HFOSS) project and helped to develop a Web site that allows medical professionals to be linked to organizations and areas that need their assistance. Currently, I am working on a project to set up and implement an anti-botnet program on campus, which will monitor and take action against malicious bot viruses on campus computers.

Computer Science

Overview

Connecticut College's computer science department provides undergraduates with a solid foundation in the fundamentals of computer science while also allowing students to gain substantive research experience. Professors place a strong emphasis on teaching students to become experienced problem solvers who are well-versed in theory and familiar with a variety of paradigms. Students are expected to think independently, solve problems and obtain an advanced understanding of the role of computer science in a liberal arts environment. Whether your experience with computers is minimal or extensive, the computer science department will encourage you to learn, be challenged and have fun.

Facilities

Students who are doing research projects or are enrolled in advanced courses have access 24/7 to the College's labs and specialized facilities. Our facilities include standard UNIX and PC labs as well as labs in robotics, networks, virtual reality and digital signal processing. The robotics lab is equipped with Sun workstations, PCs, robots and a colony space. The virtual reality and signal processing lab has high-end graphics PCs, head-mounted displays, 3D trackers, force feedback devices, development environments for multimedia content processing and software for producing high-end animations and graphics.

Interdisciplinary Studies

Computer science's interdisciplinary nature allows it to integrate seamlessly with Connecticut College's liberal arts curriculum. A great deal of the major's coursework emphasizes applications and problem solving in areas such as biology, music, psychology, art, linguistics and more. As a result, many computer science students choose to double major in another field. Some students also receive certificates from the Ammerman Center for Arts & Technology. The department's faculty members encourage majors to try out other disciplines by team-teaching and cross-listing computer science courses with a variety of departments.

Research Opportunities

The computer science faculty members consider research through independent studies, honors studies and internships a priority because it allows students to immerse themselves in topics of interest, contribute to the advancement of the science and prepare for graduate studies and future employment. Students are required to perform at least two semesters of research to complete the major. Past topics for independent studies and honors studies have included virtual reality

way-finding experiments, game agent learning, robot colony experiments, image and sound processing, algorithms for important routing and scheduling problems and work on the Humanitarian FOSS (free and open source software) project, a community of individuals collaborating to produce software to benefit humanity. Students have presented their published work at international conferences across the globe.

Internships and Study Abroad

Students studying in the computer science department are encouraged to study away or study abroad. With careful planning it is feasible to complete all the required courses for the major at Connecticut College, leaving time spent abroad open for courses in other disciplines. Students also have the option of taking computer science courses while abroad and using them to replace or supplement courses in the College's curriculum. In recent years students have studied abroad in New Zealand, Australia, South Africa, England, India and Japan.

Faculty

Gary Parker, *Associate Professor; 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

Ozgur Izmirlı, *Associate Professor of Computer Science; Judith Ammerman '60 Director of the Ammerman Center for Arts & Technology*

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

Bridget B. Baird, *Professor of Mathematics and Computer Science*

B.A., Bryn Mawr College; M.A., Ph.D., SUNY Buffalo

Virtual reality; interactions of touch and sound; multiple modalities and way-finding

Christine Chung, *Jean C. Tempel Assistant Professor of Computer Science*

B.A., M.Eng., Cornell University; M.A., Columbia University Teachers College; Ph.D., University of Pittsburgh

Algorithmic game theory; auction mechanism design; quantifying inefficiency of equilibria; evolutionary game theory; online algorithms; approximation algorithms

WHAT CAN YOU DO WITH A MAJOR IN COMPUTER SCIENCE?

Karen Larochelle '01

Works as a project leader and courseware developer at Sonalysts Inc. in Waterford, Conn. Manages and creates browser-based interactive multimedia instruction modules for submarine onboard training. Several of the modules she developed allowed her to travel to Hawaii, England and Australia.

During college she completed an independent study, participated in Gary Parker's robotics research, co-wrote two published papers and traveled to a conference in Scotland to present research.

Brad Heacock '06

Works in Glendale, Calif., for a mass notification company called 3n Global Inc. as a networks operation center manager and security coordinator. Worked for an Internet company called Oversee.net as a front-end developer for its Web sites and then as support logistics engineer.

While at Connecticut College he interned in Mexico working on a virtual reality simulation of a hacienda.

Alex Lanstein '07

Works in software and sales engineering and threat research in Silicon Valley at FireEye, a company that specializes in intrusion detection. Represents the company in many different countries and frequently does presentations at security conferences.

His research has been the focus of articles in *The Washington Post*, *PC World*, *The Register*, *Internet News* and other publications.

Selected Courses

Introduction to Computer Science and Problem Solving; Data Structures; Computer Organization; Algorithms; Computer Networks; Programming Languages; Operating Systems; Graphics and Virtual Reality; Digital Design; Multimedia; Machine Learning and Data Mining; Robotics; Digital Sound Processing; Artificial Intelligence; Computational Intelligence; Research Seminar

About Connecticut College

Connecticut College is a highly selective residential liberal arts college with 1,900 students from all over the country and the world. The academic program offers 43 majors in the arts, sciences, social sciences, humanities and other interdisciplinary programs. Students engage with dedicated faculty and each other to create a vibrant social, cultural and intellectual community in which learning is valued for its own sake — and individuals' diverse perspectives enrich the experience of all.

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