More Than a Degree

GT COMPUTING



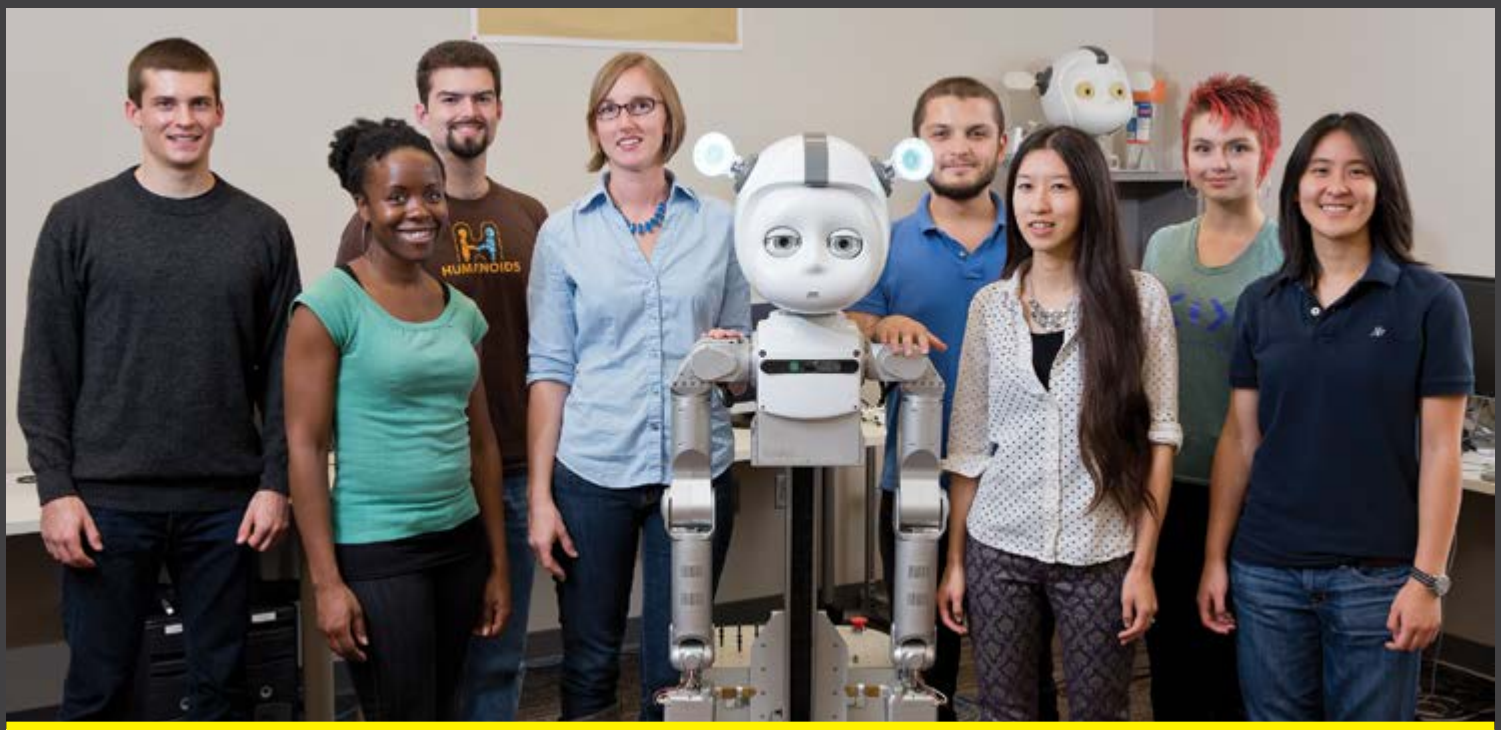







Georgia Tech College of Computing

Welcome to
GEORGIA TECH COMPUTING



Dear Students,

Welcome to Georgia Tech Computing, a Top 10 program in computing education and research. But GT Computing is much more than that – we are a growing, global computing community nearly 50 years in the making.

We teach, research and learn computing unlike any other program, because we *are* unlike any other program. We have a dedicated, world-class faculty. We have smart, tenacious and imaginative students. And we have a groundbreaking, interest-driven curriculum that allows our students to map their own course and career.

At Georgia Tech, we understand that computing is the world's new, great science, undergirding nearly every aspect of modern life. For those of us who want to spend our professional lives in computing, this is a truly awesome realization. As a community, our collective job is to empower students to think about and apply computing to create real-world impact and make their mark on the world.

We're also about much more than a degree. Want to get a head start on your career? Start working early through our co-op program or a professional internship. Perhaps you're an entrepreneur looking to start your own business. Or maybe you're ready to explore the world—we can help through one of our many international study programs. There are also dozens of student organizations, hacking competitions, student governance opportunities, undergraduate research programs—everything students need to become more than they were before arriving on campus. A lot more.

It's my pleasure as dean to invite you to learn all you can about GT Computing. Once you do, I know you'll want to be a part of a community whose goal is nothing less than to change the world—for the better—through computing.

Zvi Galil
John P. Imlay Jr. Dean of Computing

Coding Your

GT COMPUTING ADVENTURE

QUICK FACTS

The Numbers For Fall 2014

- Undergraduate Enrollment: 1,656
- Graduate Enrollment: 2,034
- Academic Faculty: 84
- Research Faculty: 39
- Instructional Faculty: 15
- Post Docs: 14

Freshman Profile for Fall 2014

- Average SAT: 2210 (CS); 2149 (CM)
- Average GPA: “A” average
- Total Freshmen Enrolled: 303
- Male: 227
- Female: 76
- Computer Science Majors: 273
- Computational Media Majors: 30
- Georgia Residents: 123
- Out-of-State: 136
- International: 44

Spring 2015 Graduates

- Highest starting salary of any major at Georgia Tech (median salary $92.5K)
- 93.2% had job offers at graduation

Undergraduate Degree Programs

- Bachelor of Science in Computer Science
- Bachelor of Science in Computational Media*
- Minor in Computer Science
- Minor in Computational Data Analysis
- Minor in Scientific Engineering and Computing

**Indicates joint degree program with School of Literature, Media and Communication*

RANKINGS

U.S. News & World Report

- 9th in graduate CS programs
- 6th in Artificial Intelligence
- 6th in Systems
- 8th in Theory
- 13th in Programming Languages

Direct Your Degree

BS in Computer Science

Computing is About Solving Problems

More than ever before, today's computing professionals must look beyond their workstation and apply a wide range of knowledge and experience to tackle big challenges. In other words, they are more than simply computationalists. Georgia Tech's Bachelor of Science in Computer Science, based on the first-of-its-kind Thread curriculum, teaches you not only about technology but how to think about and *apply* technology to create real-world impact and tackle important societal problems.

The 8 Threads

Theory: Defining the fundamental powers and limitations of computing, the theory and mathematics that underlie all of computer science.

Intelligence: Designing and implementing artifacts that exhibit various levels of intelligence, as well as understanding and modeling natural cognitive agents such as humans, ants or bees.

Information Internetworks: Capturing, representing, organizing, transforming, managing and presenting information securely and efficiently.

Systems and Architecture: Creating and evaluating computer architectures, systems and languages across a variety of paradigms and approaches.

People: The theoretical and computational foundations for designing, building and evaluating systems that treat the human as a central component.

Media: Understanding and developing the technical and computational capabilities of systems in order to exploit their abilities to provide creative outlets.

Modeling and Simulation: Expressing, specifying, creating, understanding and exploiting computational models that represent cognitive and physical processes.

Devices: Creating and evaluating computational artifacts that are embedded in physical objects and interact in the physical world, typically in real time.

Thread 1	Thread 2	Outcome Examples
Devices	Theory	Performance bounds for robotic planning algorithms
Devices	Informational Internetworks	Mobile computing
Devices	Intelligence	Robotics
Devices	Media	Developing computer games for handheld devices
Devices	People	Human-robot interaction
Devices	Systems and Architecture	Small, power and CPU-limited devices
Theory	Informational Internetworks	Security and data extraction
Theory	Intelligence	Machine learning
Theory	Media	Video compression and encoding
Theory	People	Computer science education research
Theory	Systems and Architecture	Distributed high-performance computing algorithms
Informational Internetworks	Intelligence	Multimedia distribution
Informational Internetworks	Media	High-performance database systems
Informational Internetworks	People	Computer security
Informational Internetworks	Systems and Architecture	Distributing secure information to handhelds and cellphones
Intelligence	Media	Adaptive entertainments
Intelligence	People	Presenting intelligent search/analysis results in human-readable terms
Intelligence	Systems and Architecture	Adaptive levels of intelligence based on available computing capabilities
Media	People	Visualization of high-bandwidth data streaming
Media	Systems and Architecture	Web development
Modeling and Simulation	Devices	Simulating robots in hazardous settings
Modeling and Simulation	Theory	Efficient algorithms for simulating complex phenomena (e.g., weather)
Modeling and Simulation	Informational Internetworks	Bioinformatics
Modeling and Simulation	Intelligence	Simulation environments for testing intelligent algorithms
Modeling and Simulation	Media	Animation
Modeling and Simulation	People	Adaptive interfaces
Modeling and Simulation	Systems and Architecture	Distributed simulations
People	Systems and Architecture	Developing programming environments

The 8 Threads | 28 Possible Degrees

Each thread is associated with a set of introductory and specialized courses from computing and other fields. Select at least two threads to weave together a custom computing degree reflecting your own individual interests and strengths.

Direct Your Degree

BS in Computational Media

Shaping the Future of Digital Media

Computational Media prepares you to participate in shaping the future of digital media for our society. Offered jointly by the College of Computing and the School of Literature, Media and Communication (LMC), this degree gives you two perspectives on the digital revolution.

The Computing Threads

Media: Understanding and developing the technical and computational capabilities of systems in order to exploit their abilities to provide creative outlets.

People: The theoretical and computational foundations for designing, building and evaluating systems that treat the human as a central component.

Intelligence: Designing and implementing artifacts that exhibit various levels of intelligence as well as understanding and modeling natural cognitive agents such as humans, ants or bees.

The LMC Threads

Interaction Design and Experimental Media: Building and critically analyzing interactive systems for commerce, education, entertainment, social media and personal expression.

Film, Performance, and Media Studies: Studying the history and creating new forms of cinema, electronic media and performance art.

Narrative Studies: Studying the history of storytelling and creating new story structures for enhanced television, interactive film, videogames and mobile devices.

Games Studies: Building and critically analyzing the broad and growing variety of videogame genres—everything from mainstream role-playing games to casual games, independent games, serious games and art games.

Computing Thread	LMC Thread	Outcome Examples
People	Game Studies	Games research and evaluation
People	Interaction Design	User research and social media
People	Narrative Studies	Story design
People	Film, Performance, Media Studies	Future of television
Media	Game Studies	Game design and development
Media	Interaction Design	Interface design
Media	Narrative Studies	Computational storytelling
Media	Film, Performance, Media Studies	Digital animation
Intelligence	Game Studies	Game AI and character intelligence
Intelligence	Interaction Design	Adaptive systems
Intelligence	Narrative Studies	Data journalism
Intelligence	Film, Performance, Media Studies	Adaptive media

Combining the Threads | 12 Possible Pairs

Your CM degree is crafted by selecting two course concentrations called threads, one from Computing and one from Literature, Media and Communication. There are 12 possible pairs in all (see above), and each will give you a unique focus for particular sets of careers.

Optimize Your Career

Career Development

Jump Start Your Career

As more and more students realize the opportunities a computing degree will provide them, competition for the best jobs will only get more intense. How will you differentiate yourself for the job market? Opportunities abound at Georgia Tech and the College of Computing to jump-start your career long before you graduate. After all, who looks better to an employer: A smart, talented, and hard-working computing graduate—or that same smart, talented, and hard-working graduate with a proven work history and a resume already filled with successful projects?

Career Development Services

Whatever your career aspirations may be, we can provide you with the tools to succeed. The College of Computing offers personalized advisement, programming, and events specifically for its students, including career fairs in the fall and spring semesters. Examples of our services include: support with Threads and career decision-making, resume writing, interviewing skills, job searching, career fair preparation, assessing job offers, salary negotiations, and the list goes on. The College also offers an endless array of career-directed activities, many of which incorporate companies and alumni, such as career fairs, employer information sessions, career development workshops, mock interviews, and networking events. Each student's career goals look different. The College of Computing will provide you with the connections, opportunities, and guidance to find the job you desire.

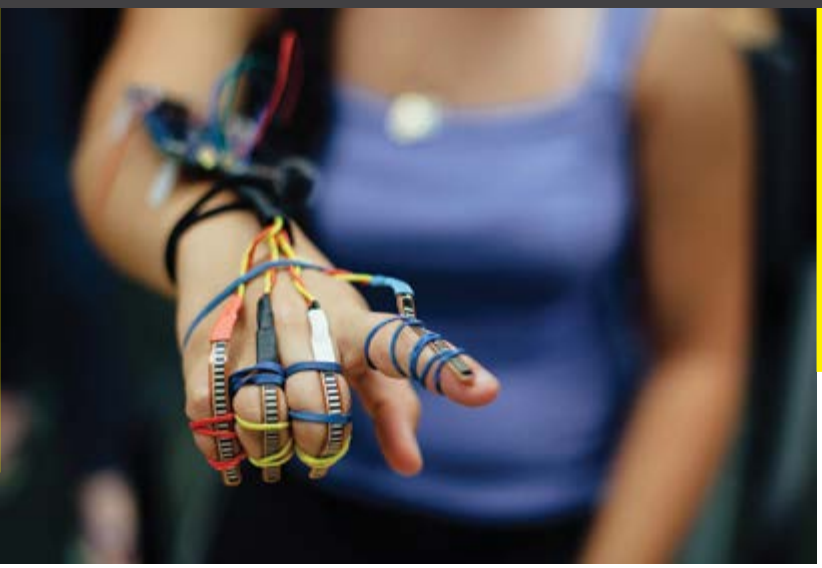
Internships and Co-ops

The Co-op Program is an academic program that complements your formal education with paid, practical work experience that's directly related to your major. Co-ops alternate between semesters of on-campus study and semesters of full-time employment. Co-op students are classified as full-time students, whether they are attending classes or working off campus. Students work with the same company throughout work semesters, giving them the opportunity to grow their responsibilities and position within the company, and many end up working for their co-op employer full-time after graduation.

Internships allow you to work one or more semesters with several different companies. Multiple internships will provide you with experience in a variety of positions with different companies to help you find a career option that truly fits you.

Find Your Own Truth

Undergraduate Research



Hone Your Lab Skills

Wherever and however you plan to apply your computing skills, you're almost certain to confront a research problem. At Georgia Tech, we have multiple research options for undergraduates to hone their lab skills. You'll give yourself valuable experience that will help your career—especially if you're considering an advanced computing degree.

Undergraduate Research

Undergraduate research develops the research skills and experience that will make a grad school or job application really stand out. Students are paired with a faculty or graduate student mentor for at least one semester to learn in depth about a research area. Research can be done for credit, pay, or as a part of Georgia Tech's Research Option.

Research Areas:

- Artificial Intelligence & Machine Learning
- Computer Architecture
- Data Science & Engineering
- Databases
- Enterprise Transformation
- Geometry, Graphics & Animation
- High Performance Computing
- Human-Centered Computing & Cognitive Science
- Information Security & Privacy
- Information Visualization & Visual Analytics
- Learning Science and Technology & Computing Education
- Machine Learning
- Modeling & Simulation
- Networks
- Programming Languages & Compilers
- Robotics & Computational Perception
- Social Computing & Computational Journalism
- Software Engineering
- Systems
- Theory
- Ubiquitous & Wearable Computing
- Virtual & Augmented Environments

Think Global

International Study

Become Globally Diverse

Today's graduates must be comfortable working with globally diverse colleagues in work environments that often span multiple continents. The best—and definitely the most fun—way to prepare is to experience other cultures first-hand. Georgia Tech has dozens of options for international study, and the College has several that are specific to computing students.

Study Abroad

Among the destinations offered by Georgia Tech's Office of International Education, the College of Computing offers two computing-specific study-abroad programs for groups of undergraduates. You can spend a summer in Spain or a semester/summer in France. Classes are taught in English by Georgia Tech and College of Computing faculty, and most financial aid and scholarships (including HOPE) apply.

Exchange Programs

In addition to group study-abroad programs, third- and fourth-year students seeking a culturally immersive, long-term study-abroad experience can participate in exchange programs at top international universities around the world. Students may opt for either fall or spring semester or a full academic year abroad, and a wide range of course-work is offered through these programs, with computing-specific opportunities available in China, Germany, Japan, South Korea, Spain, Switzerland, and the United Kingdom.

International Plan

The International Plan is an academic program that incorporates extensive international experiences, foreign language study, and globally focused coursework into an existing degree program. Through the plan, students gain a more diverse perspective of their chosen major, strengthen intercultural communication skills, and develop a working proficiency in a second language. Successful completion of the program results in a special "International Plan" designation on the degree and transcript.

Featured Destinations

Barcelona, Spain

- Select from seven courses in Architecture, Computer Science, Urban Design, and Spanish
- Travel to other European cities during two long breaks – only a few hours' travel (by plane or train) to Italy, France, the UK, and more

Metz, France

- Classes four days a week
- Located in the heart of France with easy train access to Paris, London, Germany, and Switzerland during three-day weekends

Copenhagen, Denmark

- During a fall or spring semester, take digital media and design courses at our newest exchange program with the IT University of Copenhagen (ITU) in Denmark

The GT Computing Community

More Than a Degree

Join Our Community

GT Computing is about more than just classes and degrees—a lot more. We are a global computing community, and our members range from middle-schoolers enrolled in summer computing camps to some of the country's top CEOs, along with everyone in between. While you're at Georgia Tech, we want you to take advantage of all the benefits of this community—things like enhancing your extracurricular life, building your network of professional contacts, and learning from your fellow community members.

Student Organizations

Student organizations provide academic, professional, and social support and development. Membership in any of the College of Computing's diverse student organizations will hone your leadership skills and provide a forum for you to learn from fellow students. Within these organizations, students have the opportunity to work on projects outside of the classroom while building connections that will last a lifetime.

Freshmen Fundamentals

Your first year of college is full of new opportunities and experiences – all of which can be a little overwhelming. Our Freshmen Fundamentals program provides you with the opportunity to learn straight from your peers about topics important to being successful in computing. Upperclassmen lead a series of sessions throughout the academic year that cover introductory topics like programming languages, hardware, operating systems, digital portfolios, and more.

Social Media

Yeah, we know: Every company down to the corner lemonade stand has a Facebook page. But at GT Computing, we try to use our social media channels to give you what you need—not just what we want you to have. We put the *social* in social media. Whether it's posting vintage photos, holding giveaway contests, or simply cracking a joke, we provide our fans and followers a reason to include us in their feed.

facebook.com/gtcomputing
instagram.com/gtcomputing
@gtcomputing

Get Started

Advising & Contacts

Ready to Join Us?

We hope this booklet has given you a great overview of what it means to be a member of GT Computing. Your next steps for joining our community begin here – the first in an infinitely rewarding path to becoming a College of Computing alumnus.

Georgia Tech Admissions:
admission.gatech.edu

Financial Aid:
finaid.gatech.edu/freshman

Visit Campus:
admission.gatech.edu/visit

Pre-College Advice

Even though we think there is something at Georgia Tech for everyone, we tell students who are looking at colleges to find the right fit for themselves as individuals with specific tastes and comfort levels. Look at more than just the academics and reputation of the schools you're thinking about. Are they places you can see yourself living and thriving for four or five years?

Applying to College

We're looking for more than just academically strong students; we want to know what you can do to enhance the Georgia Tech community. So on your application be sure to include your social activities, leadership positions, part-time jobs, advanced placement classes, summer camps, or volunteer work. Use your essay to tell us more about who you are as an individual and why Georgia Tech is the right fit for you.

Intentional Advising

The Office of Undergraduate Advising uses a full-circle intentional advising approach to help computing students optimize their educational experience and achieve their goals. Through this approach, students create an educational plan, as well as participate in personal and career development opportunities.

Classes to Aid Transition

We want our students to be successful as they transition from high school to college and from college to alumni. We offer several classes to aid students as they make these transitions throughout their time at Georgia Tech.

CS1100

Also known as Freshmen Seminar, this class is designed to help you begin your transition to college socially, academically, physically, and personally. Throughout the course you will acquire strategies that promote your success while at Georgia Tech and in your future career, learn more about the Thread options for both degrees, and have the opportunity to network with fellow first-year students and other College representatives.

GT1000

This course facilitates a study of *you* as a student at Tech. You learn about your personality, values, learning styles, and self-concepts. This knowledge enables you to better strategize about your student career and the opportunities that are available beyond graduation.

Important Contacts

Jennifer Whitlow
Director of Computing Enrollment
jwhitlow@cc.gatech.edu

Candace Mitchell

2011 Alumna, Computer Science

"The College of Computing opened up many doors for my career as an entrepreneur. I studied abroad in Barcelona, started new educational programs for high school students, and invented a product based on my passions. There's a whole new world to explore if you work through the challenges to build your knowledge and step out into the unknown knowing that you have a world-class education and community to support you."

Michael Maurer

Current Student, Computer Science

"From my first day, I was impressed by the closeness of the community at the CoC. Every professor I've had is passionate about the material and wants you to understand it. Fellow students become close friends because of a common passion, and are there to lend a hand when you need it. I am incredibly proud to be part of this close community of people who genuinely want to help."

Rose Peng

2012 Alumna, Computational Media

"The Computational Media program at the College of Computing provided me with fantastic opportunities to expand my creative potential. It had numerous resources for me to learn and practice computer science while also allowing me to find new ways to apply my visual art skills. Overall, it provided a diverse and supportive community of students and professors who were there to help me learn new skills, meet new people, and succeed."

Madeleyne Vaca

Current Student, Computer Science

"The College of Computing took me in my sophomore year of high school and never let me go. Through outreach programs, I was given the resources to build things that I didn't know I was capable of making. These experiences led me to my passion and gave me the confidence to start conducting research in GT robotics labs. I can't wait to discover what else GT Computing has to offer."

cc.gatech.edu

facebook.com/gtcomputing

@gtcomputing