UNDERGRADUATE STUDIES IN

MATHEMATICS AND COMPUTING

The Bachelor of Science in Mathematics and Computing (MACS) stands apart by offering a balanced, integrated curriculum that develops both mathematical depth and computational fluency. It is ideal for students who want to understand not just how computational systems and algorithms work, but why they work, how to prove their properties, and how to build new ones from first principles. A B.S. in Math and Computing from Georgia Tech prepares students for cutting-edge interdisciplinary fields such as artificial intelligence, computational science, data-driven modeling, and algorithm design.

Pathways to Interdisciplinary Expertise

The B.S. in MACS is an interdisciplinary program developed through a collaboration between the School of Mathematics in the College of Sciences and the College of Computing. Students pursuing this major will choose from three concentrations:

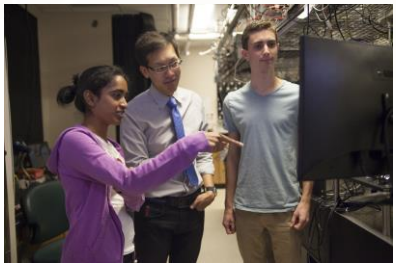
- **Discrete Math and Theoretical Computer Science**: Focuses on tackling foundational and abstract problems in computer science that require advanced knowledge in algebra, analysis, probability, and graph theory.
- **Modeling, Simulation, Data, and Applied Math**: Equips students with mathematical and computational tools ubiquitous in industrial and scientific applications, such as simulating differential equations and analyzing large-scale data.
- **Mathematical Intelligence and Data Science**: Bridges AI applications with mathematical foundations in statistics and optimization to understand and develop advanced machine learning models.

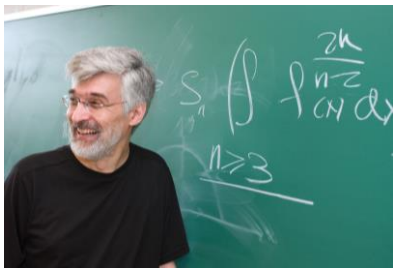
Industry Perspectives on MACS

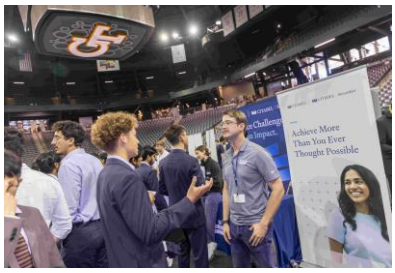
To meet the demands of the modern economy, the MACS major takes an interdisciplinary approach that has earned a strong endorsement from industry partners. Their feedback emphasizes the increasing importance of combining mathematical reasoning with computing skills in today's technology and data-driven industries. Employers are seeking graduates who not only understand computational tools and machine learning methods, but who also possess the mathematical foundation needed to analyze, develop, and apply these techniques effectively across a wide range of fields.

FOR MORE INFORMATION

For more information, please visit **mathcomputing.gatech.edu**. You may also email questions to **mathcomputing@gatech.edu**.







Careers

MACS graduates possess a rare combination of theoretical depth and technical proficiency. They are highly sought after for research-driven and analytical roles across diverse industries, including:

- Artificial intelligence
- Machine learning
- Data analytics
- Software engineering
- Information security
- Logistics
- Quantitative finance
- Algorithm design
- Computational science
- Research and development
- National laboratories (e.g., DOE)
- State and federal agencies (e.g., NASA, NSA)

Georgia Tech has the largest voluntary co-op education program in the nation. Participation in co-op or internship programs provides financial support for your studies and invaluable experiences. See **career.gatech.edu** to learn more.

- Georgia Tech ranks first in the nation as the Best Value College, first in Career Placement, and fourth for Internships [1].
- The U.S. Department of Labor reports that the average salary for computer and mathematical occupations is $116,810 [2].

The B.S. in Mathematics and Computing also prepares students for graduate programs in mathematics, computer science, and related fields, as well as some professional graduate programs.

Resources for Students

MACS students are full members of both the School of Mathematics and the College of Computing communities. As an interdisciplinary program, students will have access to a broad network of academic support, professional development resources, career opportunities, and student life experiences across both the College of Sciences and the College of Computing. Some examples are:

- From the School of Math and the College of Sciences:
  - Priority admission to the Explore Living Learning Community
  - Job opportunities such as undergraduate TA and grader
  - Directed Reading Program
- From the College of Computing
  - Access to the College of Computing Career Fair
  - Exclusive internships for College of Computing students
  - Entrepreneurships like the Klaus Startup Challenge

International Opportunities

Students in the School of Mathematics and in the College of Computing have a wide range of opportunities for undergraduate study at institutions throughout the world. Further information can be obtained from the Office of International Education (**oie.gatech.edu**).

[1] https://www.princetonreview.com/college-rankings?rankings=top-50-best-value-colleges-public-schools
[2] https://data.bls.gov/oes/#/industry/000000