



Richard Woods, Georgia's School Superintendent
"Educating Georgia's Future"
gadoe.org

High Demand Career Initiative



Mike Finley, AnswerRocket
Maria Grovner, GaDOE



Who are some of Georgia's top employers in the field?



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Top Digital Media Employers

- CNN
- Turner Broadcasting System
- AT&T Mobility
- Cricket Wireless
- Headline News
- The Weather Channel
- Cox Enterprises
- Cisco Systems

Top Health IT Employers

- McKesson Technology Solutions
- MedAssets
- HealthPort
- Greenway Health
- Navicare

Top Financial Services Technology Employers

- Fiserv
- NCR
- First Data
- TSYS
- Equifax

Reach out to these employers. Invite them to get involved in your career exploration activities.

- The Home Depot Inc.
- United Parcel Service Inc.

Georgia's Fortune 500

- The Coca-Cola Co.
- Delta Air Lines Inc.
- Aflac Inc.
- Southern Co.
- Genuine Parts Co.
- First Data Corp.
- HD Supply Holdings Inc.
- Veritiv Corp.
- SunTrust Banks Inc.
- Mohawk Industries Inc.
- AGCO Corp.
- Ashbury Automotive Group Inc.
- Coca-Cola European Partners
- NCR Corp.
- PulteGroup Inc.
- Newell Brands Inc.





Strong quality of life...
Terrific schools... “
Stephen Cannon,
President
Mercedes Benz USA

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GEORGIA INVESTS FOR A SKILLED BIOSCIENCE WORKFORCE	04

MERCEDES-BENZ USA TO RELOCATE HEADQUARTERS

After months of evaluating several states, German automotive manufacturer Mercedes-Benz USA President and CEO Stephen Cannon in a...

ENDOCHOICE | **Mark Gilreath, CEO** US: 888.682.ENDO (3636) Intl: +49 (0) 4101 5173-0



BOEING Georgia Jobs - Search for Job Opportunities at Boeing
<https://jobs.boeing.com/location/georgia-jobs/185/6252001-4197000/3> Boeing
 Jobs in Georgia. Filtered by: Technical Data Designer 2, Warner Robins, Georgia, United States
 07/01/2016 · Quality Engineer 4, North Charleston, South ...

FRONTIERS [PDF] Georgia - Boeing
www.boeing.com/resources/boeingdotcom/government.../state.../card_GA.pdf Boeing
 Boeing Supplier/Vendor Purchases in Georgia: \$341.7M. Supporting an estimated 11,000 direct and indirect jobs in Georgia. Boeing Employees in Georgia.

[PDF] Georgia - Boeing
www.boeing.com/assets/pdf/aboutus/govt_ops/state_cards/card_GA.pdf Boeing
 Boeing Supplier/Vendor Purchases in Georgia: \$324.3M. Supporting an estimated 11,000 direct and indirect jobs in Georgia. Boeing Employees in Georgia.

Boeing to make 747 fuselage parts in Ga. as supplier pulls out | The ...
www.seattletimes.com/.../boeing.../boeing-to-make-747-fuselage-pa... The Seattle Times
 Sep 17, 2015 - Boeing will transfer the work of making fuselage panels to its Macon, Ga., plant and is putting other Triumph work on the 747 out to bid.

Boeing to convert its Macon military plant to a commercial airplane ...
www.macon.com/news/business/article35572137.html The Telegraph
 Sep 17, 2015 - The Boeing Co. will invest \$81.7 million to convert its existing military facility in Macon ...
 Boeing, in Macon, Georgia TELEGRAPH FILE PHOTO.

Boeing Jobs, Employment in Atlanta, GA | Indeed.com
www.indeed.com/q-Boeing-I-Atlanta,-GA-jobs.html Indeed.com
 Jobs 1 - 10 of 65 - 65 Boeing Jobs available in Atlanta, GA on Indeed.com. one search. all jobs.

Boeing NewGen Tanker would bring 370 jobs, \$17 million to Georgia
www.reliableplant.com/Read/27498/Boeing-NewGen-Tanker-Georgia
 The Boeing Company on November 18 announced that Georgia will benefit from an estimated 370 total jobs and generate an estimated \$17 million in annual ...

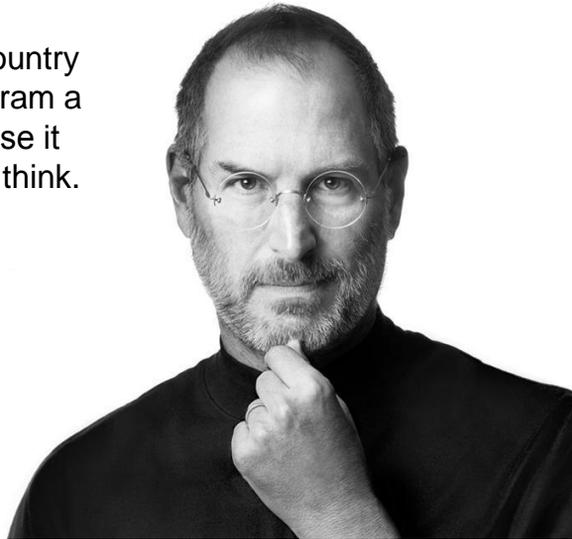
Boeing to Build 747 Fuselage Panels at Macon, Georgia Facility - Sep ...
houstonmediamom.com/2015/09/17/Boeing-to-Build-747-Fuselage-Panels-at-Macon

“We see the STEM pipeline diminishing...
It's one of the biggest challenges facing our country.”

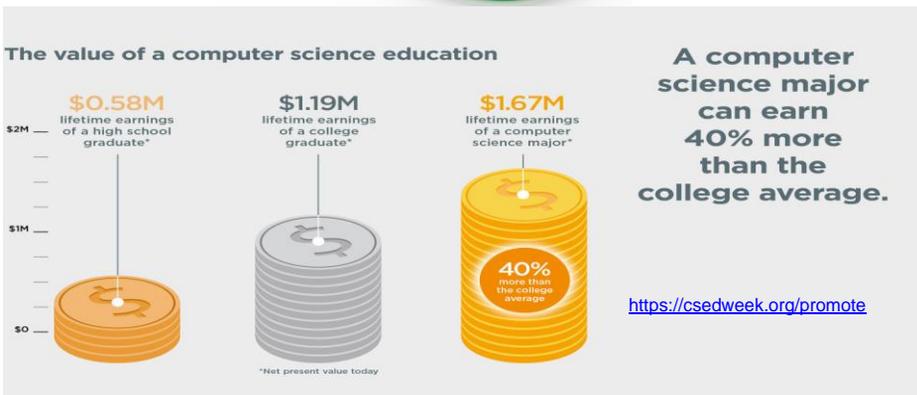
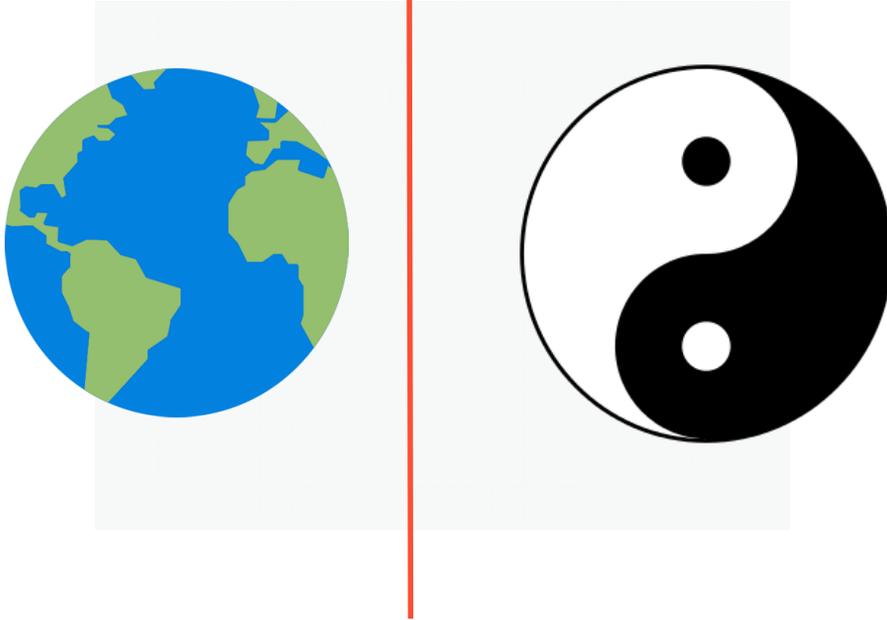


Everybody in this country
should learn to program a
computer... because it
teaches you how to think.

- Steve Jobs



- Every company is a technology company
- The most successful people will have a good understanding of how to apply technology
 - <http://www.forbes.com/sites/oreillymedia/2014/05/13/every-company-is-a-tech-company/#4516479336b9>
 - <http://digital.guide/15-reasons-everyone-learn-computer-programming/15047/?v=1>
 - <http://www.depauw.edu/academics/departments-programs/computer-science/why-study-computer-science/computing/>





- In 2014...
- 543,145 computing jobs available in the US!
- Only 49,969 people graduated with computer science degrees
- In Georgia 22,176 computing jobs
- Only 1,496 computer science graduates
- <https://csedweek.org/promote>
- The HDCl found that 65% of Home Depot's software engineers are from out of state.
- 16,250 technology companies
- \$113.1 billion economic impact on Georgia
- 5th-largest IT employment cluster in U.S. (200,000 high-tech professionals)
- Eight of the top 100 health IT firms and four of the top 20 financial technology companies call Georgia home.
- Kids need an earlier start in IT

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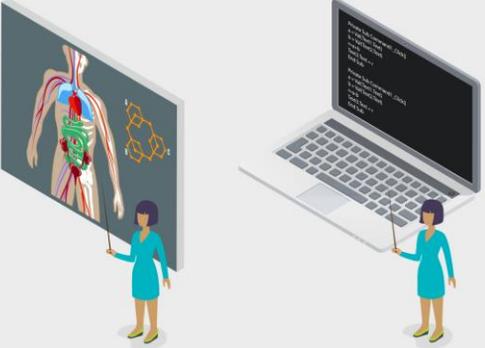
Computing jobs are the #1 source of new wages in the United States.



500,000 current openings: These jobs are in **every** industry and **every** state, and they're projected to grow at twice the rate of all other jobs.

<https://csedweek.org/promote>

Computer science is foundational



Every 21st century child should have a chance to learn about algorithms, how to make an app, or how the Internet works.

Just like they learn about photosynthesis, the digestive system, or electricity.

<https://csedweek.org/promote>

- Computer and technology related occupations will increase 12% between 2014 and 2024
- Computer and technology fields will add between 3.9 million and 4.4 million jobs
- The annual median salary for computer and information research scientists is approx. \$110,000
- In Georgia it is approx. \$93,000

– www.bls.gov/ooh/computer-and-information-technology/home.htm



- Computer and math related occupations comprise 8.5% of overall job listings
- Only 5.5% were interested in computer and math related jobs
- There is a gap between the amount of available tech jobs and the number of people interested in them

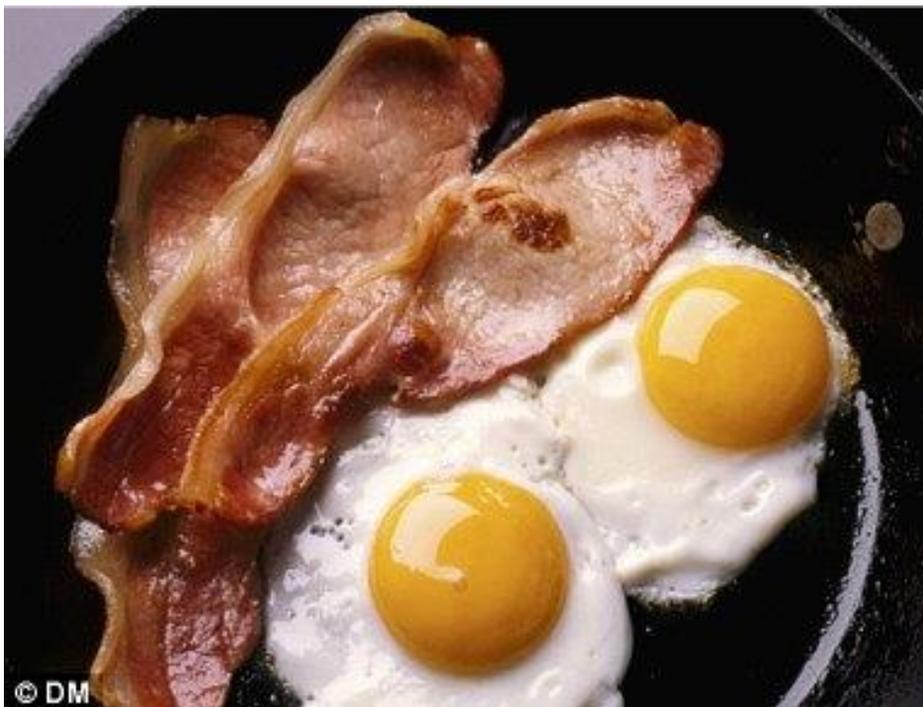
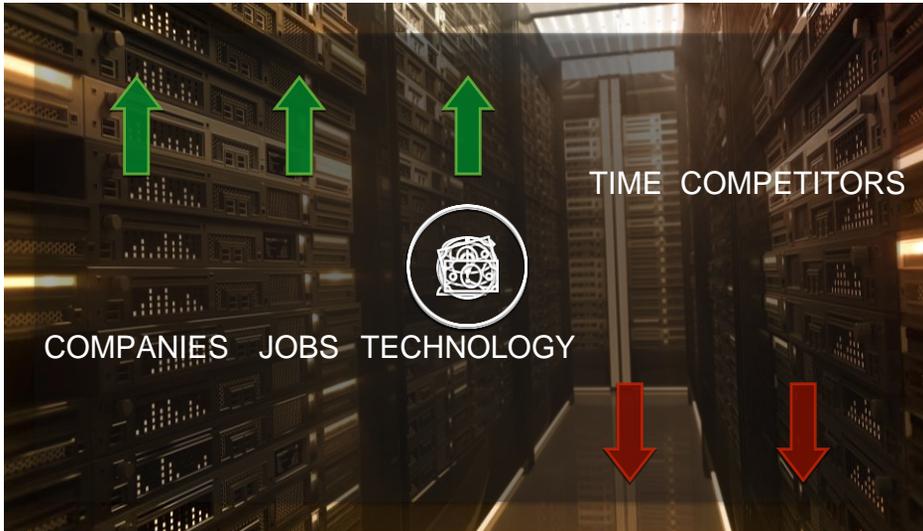
• www.cnbc.com/2015/10/13/where-the-jobs-are-health-and-tech-are-in-high-demand.html

- Alpharetta has invested mind and capital to build a tech hub (600 tech companies)
- Atlanta Tech Village Startup Hub
- Advanced Technology Development Center at Georgia Tech
- 424 of 500 Fortune 500 companies have offices in Atlanta

• <http://www.alpharettatech.org/>



- Technology is the key to solving the problems of today and the future
- Students need to have the opportunity to take classes in computer science
- In Georgia only 37% of principals could identify the difference between computer literacy and computer science
- In Georgia 91% of parents want their children to learn computer science
- <https://www.sciencepioneers.org/parents/why-stem-is-important-to-everyone>
- <http://services.google.com/fh/files/misc/ga-cs-edu-state-report-2016.pdf>



Can We Agree...

- Kids want IT
- Parents want IT
- IT is in growing demand
- The economy depends on IT
- **Success in IT is an existential requirement for Georgia's quality of life.**
- We need to do more to be ready for IT
- *What's holding us back?*

HOW TO WRITE A POEM

- Plan your **meaning**
- Compose your lines
- Check **rhyme**
- Apply rules of **meter**
- Review and critique
- Publish

HOW TO WRITE A PROGRAM

- Plan your **purpose**
- Compose your lines
- Check **logic**
- Apply rules of **syntax**
- Review and critique
- Publish

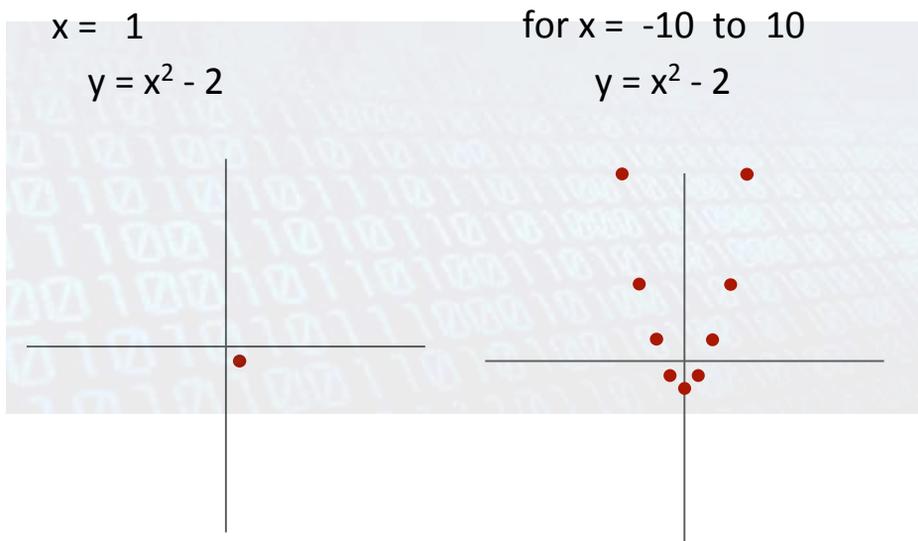
How to learn a foreign language

- Vocabulary
- Reading comprehension
- Translation
- Composition

How to learn a computer language

- Vocabulary → Terminology
- Reading comprehension → Debugging
- Translation → Refactoring, Commenting
- Composition → Design

Mathematics in *Motion*



NON-TRADITIONAL FIELD

- The gender gap in computer science is enormous.
- Women face a stereotype threat.
- Early education is the solution.
 - <https://www.insidehighered.com/news/2015/04/21/study-measures-causes-gender-gap-computer-science>:
 - https://psychology.stanford.edu/sites/all/files/cdweckmathgift_0.pdf:
- **Counselors 4 Computing**
(National Center for Women in Information Technology)
 - <https://www.ncwit.org/project/counselors-computing-c4c>



What's available in our schools?



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- ### Information Technology Pathways
- [Cybersecurity](#)
 - [Need for CyberSecurity](#) (Article)
 - [Computer Science](#)
 - [Health Information Technology](#)
 - [Increase in need for Health IT](#) (Article)
 - [Game Design](#)
 - [Information Support and Services](#)
 - [Internet of Things](#)
 - [Networking](#)
 - [Programming](#)
 - [Web and Digital Design](#)
 - [Web Development](#)

- Certain Computer Science courses are allowed to serve as 4th science, 4th math or world language and accepted by USG

Advanced Placement Computer Science
International Baccalaureate Computer Science, Year One
International Baccalaureate Computer Science, Year Two
Computer Science Principles
Programming, Games, Apps and Society
Web Development
Embedded Computing
Game Design: Animation and Simulation

Fifth Grade

- Visit a local technology company to see their network area; Best Buy Geek Squad
- [Making the Most Out of Minecraft](#)
- [Teach Your Kids to Code: 6 Beginner's Resources for Parents](#)
- Students create their own handmade Virtual Reality Headset (VR)
- Take the kids to the computer lab; let them explore the career related resources on educational websites.
- Try to round up some older computers (maybe even a typewriter), giving the kids a chance to see what you used before the modern day devices.
- Have the kids design simple computer games.
- Let the kids take apart an old computer.
- Have the kids create a simple website for their class.
- Hour of Coding



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HDCI Trends

- [High Demand Career Initiative Report](#)
- Concern: Aging Workforce
- Internships
- Basic Education Skills
- Introduce STEM at a younger age
- Diverse Workforce in STEM Related Jobs
- Productive Partnerships
- Shortage of Local Skilled Trades Workers
- **SOFT SKILLS**
 - CTAERN Accessibility to Lessons
 - Georgia Best
 - Roger Hill...Email him for access to curriculum rbhill@uga.edu

IT Awareness Activities



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- Reach out to employers via letter writing, skype sessions
- What are you doing on STEM Nights at your school?
- Connect with your school's Career Technical Student Organizations (CTSOs)...TSA, FBLA, Skills USA
- [Computer Science Career Guide](#) (Be ready to pick up your jaw after seeing this list of careers)
- [Computer Science Education Week](#) (Dec. 5-11, 2016)
 - Showcase Information Technology this week via announcements, role models in the field, top employers in this field, spend time coding, and other activities that may be available via this link
- [Code.org](#) (GA Fact sheet available via Stats Tab)



Teach Programming

Everyone can learn.
No born experts.

They need your help.
But you don't have to ride.

They are scared.
But they really want it.

Any bike will do.
Learn one, ride any.

Learn by failing and
laughing about it.

It's not about the
ride.
It's where the ride
takes you.



Seussville.com



UPCOMING WEBINARS

HDCI Spotlight Agriculture

Nov. 30 • [Register](#) • 1:00 PM

