



DISCOVERY DAY

Dr. Wayne Summers
TSYS School of Computer Science
Columbus State University
23 March 2013

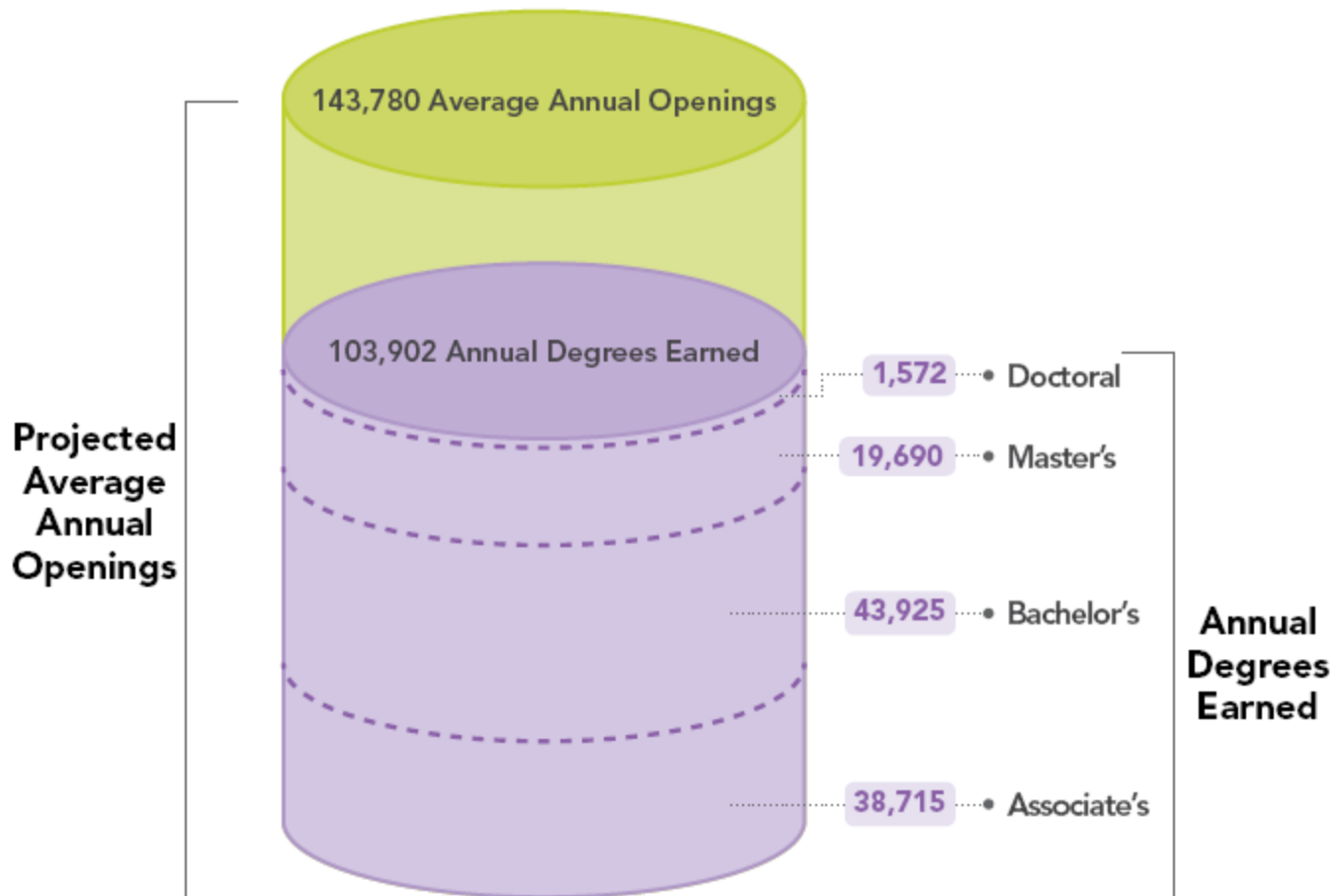


COLUMBUS STATE
UNIVERSITY



CODING: What most schools don't teach

United States: Number of Degrees Earned in CIS vs. Projected Average Annual Number of Computing Job Openings



Sources: Workforce Indicators, Computer and Mathematical Occupations, Bureau of Labor Statistics, Occupational Projections, 2010-2020.
Completed Degree Data, Computer and Information Sciences, 2010-2011 National Center for Education Statistics.

ncwit.org



COLUMBUS STATE
UNIVERSITY

Computing / IT in Georgia

- 54% of projected job openings could be filled by computing degrees.
- AP Computer Science Test-takers 2009: **743**
- **Degrees Earned in Computer and Information Sciences 2007-2008 Academic Year**

Associate's: **818**

Bachelor's: **1168**

Master's: **467**

Doctoral: **58**

TOTAL: 2511



- **Projected Workforce Indicators (2006-2016)**

Average Annual Computing Job Openings: **4660**

10-year Percent Change in Computing Jobs: **24.8%**

10-year Change in Number of Computing Jobs: **24,050**

<http://www.ncwit.org/edjobsmap>



COLUMBUS STATE
UNIVERSITY

Best Jobs in America

1
Systems Engineer
 Information Technology (88,000)
 \$87,100 | **\$130,000**

2
Physician Assistant
 Healthcare (82,000)
 \$90,900 | **\$124,000**

3
College Professor
 Education (278,000)
 \$70,400 | **\$115,000**

4
Nurse Practitioner
 Healthcare (23,000)
 \$85,200 | **\$113,000**

1 Top 50 Rank
Job Title
 Sector (Total Jobs)
 Median salary | **Top pay**

- Key
- Selected interest areas
 - highest paid Salary
 - highest median Salary
 - most flexibility
 - most satisfaction
 - benefit to society
 - highest job growth
 - highest low stress
 - most security
 - future growth

5
IT Project Manager
 IT (174,000)
 \$98,700 | **\$140,000**

6
Certified Public Accountant
 Financial (189,000)
 \$74,200 | **\$138,000**

7
Physical Therapist
 Healthcare (181,000)
 \$74,300 | **\$98,100**

8
Computer/Network Security Consultant
 IT (13,000)
 \$99,700 | **\$152,000**

9
Intelligence Analyst
 Government (51,000)
 \$82,500 | **\$115,000**

10
Sales Director
 Sales and Marketing (97,000)
 \$140,000 | **\$239,000**

11
Anesthesiologist
 Healthcare (23,000)
 \$292,000 | **\$408,000**

12
Software Developer
 IT (796,000)
 \$79,400 | **\$116,000**

13
Pharmacist
 Healthcare (198,000)
 \$109,000 | **\$134,000**

14
Occupational Therapist
 Healthcare (107,000)
 \$69,700 | **\$100,000**

15
Nurse Anesthetist
 Healthcare (19,000)
 \$157,000 | **\$214,000**

16
Software Product Manager
 IT (37,000)
 \$106,000 | **\$148,000**

17
Business Analyst, IT
 IT (125,000)
 \$82,600 | **\$119,000**

18
Attorney/Lawyer
 Legal (541,000)
 \$115,000 | **\$262,000**

19
Physician/General Practice
 Healthcare (90,000)
 \$150,000 | **\$228,000**

20
Human Resources Manager
 Other (226,000)
 \$71,800 | **\$111,000**

21
Senior Financial Analyst
 Financial (127,000)
 \$79,900 | **\$109,000**

22
Physician/Obstetrician/Gynecologist
 Healthcare (14,000)
 \$222,000 | **\$338,000**

23
Clinical Psychologist
 Healthcare (57,000)
 \$81,100 | **\$172,000**

24
Psychiatrist
 Healthcare (20,000)
 \$177,000 | **\$279,000**

25
Veterinarian
 Other (68,000)
 \$83,900 | **\$157,000**

30
Telecommunications Network Engineer
 IT (21,000)
 \$86,200 | **\$130,000**

33
Securities Trader
 Financial (17,000)
 \$113,000 | **\$491,000**

35
Education/Training Consultant
 Financial (23,000)
 \$77,800 | **\$157,000**

Emergency Room Physician
 Healthcare (22,000)
 \$249,000 | **\$386,000**

Product Management Director
 Sales and Marketing (17,000)
 \$145,000 | **\$201,000**



Employment for CS/IT Graduates 2011-2012

UNDERGRAD DEGREES

	EMPLOYED	%
CS - Systems	4	4 100%
Applied CS	12	12 100%
CS - Games	10	10 100%
IT	9	7* 78%
	35	33 94%

EMPLOYMENT

CSU (UITS)	7
TSYS	9
AFLAC	3
OmegaFi	2
Gentiva Health Services	1
CACI	1
WTVM	1
<i>Eyes Wide games (ATL)</i>	1
<i>Progress (ATL)</i>	1
<i>Consilium1 (ATL)</i>	1
Defense contractor (Augusta)	1
Intelligent Automation (MD)	1
Planned Systems Intl (DC)	1
Dean Evans (CO)	1
Graduate Assistant	2
interviewing	2

GRAD SCHOOL

GaTech	2
CSU	9
total	11
percentage	31%



Challenge

- Professionals in computing say that you should like:
 - Problem solving
 - Working with others in a team
 - Problem solving
 - Being creative
 - Problem solving



Some Quick Facts about CS Students

- Approximately 300 undergraduates
- Approximately 90 graduate students
- Increasing student research opportunities
- Variety of internship and coop opportunities
- Study-abroad opportunities
- ACM Student Chapter



Academic Programs in Computer Science

- [BS Computer Science - Applied Track](#)
- [BS Computer Science - Games Track](#)
- [BS Computer Science - Systems Track](#)
- [BS Information Technology](#)
- [BS Information Technology \(online\)](#)
- [Combined BS/MS Computer Science](#)
- [Computer Science Teaching Endorsement](#)



Academic Programs in Computer Science

- **Bachelor of Science in Computer Science**
 - **Systems**
 - designed for students who plan on continuing to a graduate program in Computer Science or who want a more traditional and theoretical degree
 - **Applied**
 - less theoretical with a focus on mainframe programming and web programming
 - **Games**
 - designed for students who plan on continuing to a graduate program in Computer Science or who want to work in the gaming, modeling, and simulation industry
- **Minor Computer Science (18 semester hours)**

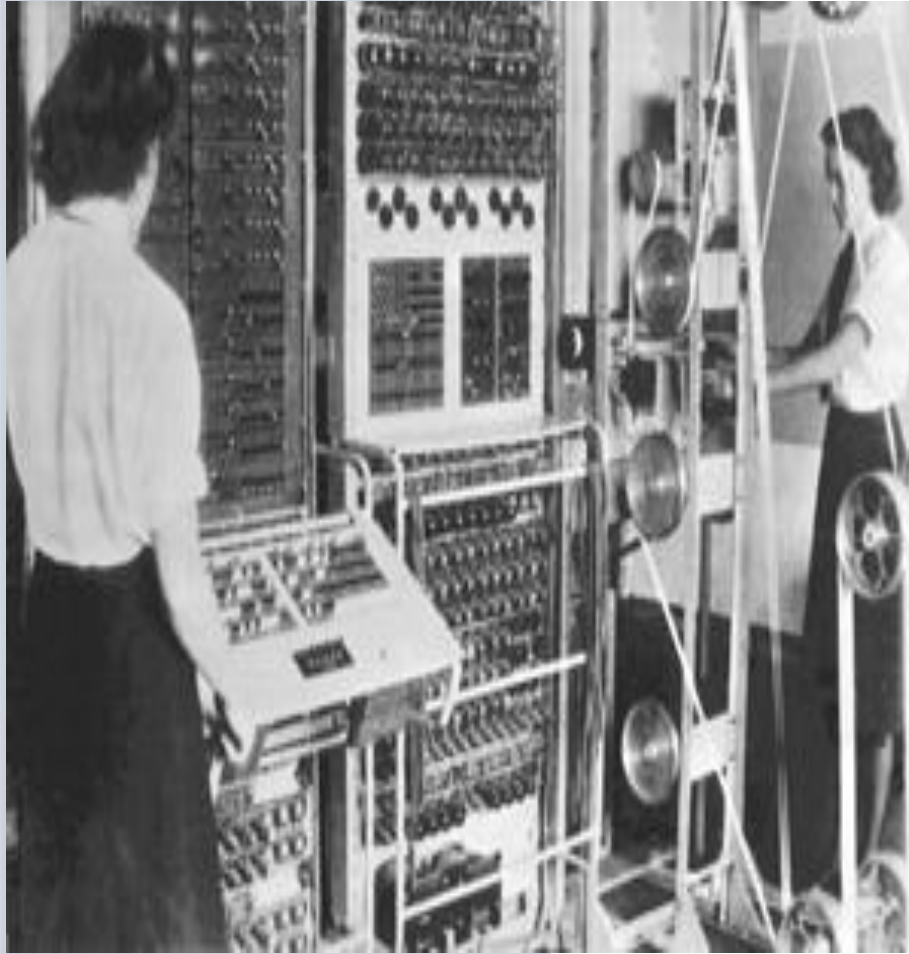


Collaboration with Industry

- Internships for students
- Collaborative Research in:
 - Security / CyberForensics
 - Mobile App Development
 - Wireless Networking / Pervasive Computing
 - Modeling and Simulations (Serious Games)
 - Software Development
 - Data Visualization
 - Data Warehousing / Data Mining / Data Analytics
 - Legacy Code Translation



Computers in the 1940s



**How many
computers in
this picture?**





1 **NEW** DEFINITION IS ADDED ON **URBAN**

1,600+ **READS** ON **Scribd**

13,000+ HOURS **MUSIC** STREAMING ON **PANDORA**

12,000+ **NEW ADS** POSTED ON **craigslist**

370,000+ MINUTES **VOICE CALLS** ON **skype**

98,000+ **TWEETS**

20,000+ **NEW** POSTS ON **tumblr**

THE **LARGEST** SOCIAL READING PUBLISHING COMPANY

320+ **NEW** **twitter** ACCOUNTS

100+ **NEW** **LinkedIn** ACCOUNTS

13,000+ **iPhone** APPLICATIONS DOWNLOADED

1 **NEW** ARTICLE IS PUBLISHED

THE **WORLD'S** LARGEST COMMUNITY CREATED CONTENT!

QUESTIONS ASKED ON THE INTERNET...

100+ **Answers.com**
40+ **Yahoo! Answers**

6,600+ **NEW** PICTURES ARE UPLOADED ON **flickr**

600+ **NEW** **VIDEOS**

50+ **WORDPRESS** DOWNLOADS

70+ **DOMAINS** REGISTERED

60+ **NEW** **BLOGS**

168 MILLION **EMAILS** ARE SENT

694,445 **SEARCH** QUERIES

1,700+ **Firefox** DOWNLOADS

695,000+ **facebook** STATUS UPDATES

25+ HOURS **TOTAL** DURATION

1,500+ **BLOG** POSTS

79,364 **WALL** POSTS

125+ **PLUGIN** DOWNLOADS

The PC of tomorrow

- [Sixth Sense](#) (wearable technology) 4:41
- [Oblong \(mezzanine\)](#) 4:55
- [Oblong \(g-speak\)](#) 3:06
- [A Day Made of Glass](#) (5:33)
- [A Day Made of Glass2: Unpacked](#) (11:25)
- [CES 2013: Mind-controlled helicopters, games for kids with ADHD](#) (3 min)

TSYS School of Computer Science **PREVIEW**



- Mobile Apps
- Unmanned Aerial Vehicle & Robots
- Games and Simulations



QUESTIONS?



Wayne Summers
TSYS School of Computer Science – CSU

<http://cs.ColumbusState.edu>

cs@ColumbusState.edu

(706) 507-8170

wsummers@ColumbusState.edu