Facts

Department of Computer Sciences

Degrees Awarded

Bachelor's and Master's of Science in Computer Science

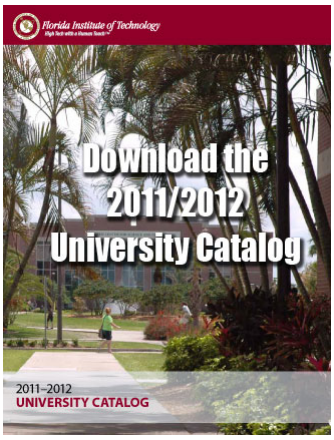
Bachelor's and Master's of Science in Software Engineering

Doctor of Philosophy in Computer Science

Facts do not tell the whole story. Visit Florida Tech and the Department on the Internet. Also consult the Florida Tech University Catalog for additional information.

Quality of Matriculating Students

	SAT			ACT			High School	
	Math	Verbal	Total	Math	Verbal	Total	GPA	Rank
Average	625.6	584.2	1209.8	27.3	26.4	27.0	3.46	26.9%
Median	625	580	1210	28	26	27	3.58	24.5%



Undergraduate Core

Programming: Java, C++, Assembly, Data Structures

Software Engineering

Systems: Computer Organization, Operating Systems

Mathematics: Discrete Mathematics, Calculus, Probability and Statistics

Software Design Projects Communication and Teamwork

Pro Track Co-op Program

Interleave academic and work experiences and still graduate in as few as four years.

Fast Track Master's Program for Honors Students

Earn both a Bachelor's and Master's degree in as few as five years.

Student Achievement

The Department's ACM programming teams have reached the finals of the International Collegiate Programming Contest 5 times in recent years.

The "1, 2, 3, 4" Senior Design Team received honorable mention in the US competition of Microsoft's Imagine Cup for their project to develop

Bachelor's of Science in Computer Science

Analysis of Algorithms
Computer Architecture
Formal Languages
Programming Languages
Electives in multiple areas

Bachelor's of Science in Software Engineering

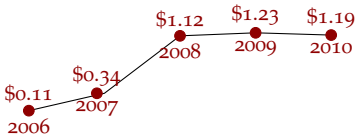
Requirements Engineering
Software Design
Software Metrics & Models
Software Testing
Electives in multiple areas

a language-independent, motion-directed game for children learning to count.

Student-to-Faculty Ratio & Class Sizes

		Undergraduate		Graduate			Total
	Faculty	CS	SE	CS	SE	PhD	
Count	14	111	59	67	25	24	286
Ratio		7.9	4.2	1.8	4.8	1.7	20.4
Average Class Size		14.0		8.1			11.2
Maximum Class Size		43		28			

Research



Expenditures in Millions of Dollars

Harris Institute for Assured Information

Center for Software Testing Education

Center for Computation & Intelligence

Computer Vision and Bio-Inspired Computing Laboratory

Lab for Learning Research

Temporal Multidimensional Reasoning

Software Evolution Lab

Accreditation and Professional Memberships

The Bachelor of Science Program in Computer Science is accredited by the Computing Accreditation Commission (CAC). The Bachelor of Science Program in Software Engineering is accredited by the Engineering Accreditation Commission (EAC). Both are Commissions of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: (410) 347-7700.

The Florida Tech Chapter of the Association for Computing Machinery helps build a network of computing professionals. High achieving students are recognized by nomination to membership in Upsilon Pi Epsilon, the International Honors Society for the Computing and Information Disciplines. The Department of Computer Sciences is a member of the Computing Research Association.

Where Our Graduates Continue Learning

Where Our Students Work

Network With Us

Check out our Facebook group, where you can connect with current members and alumni of the Computer Sciences Department.

Visit our YouTube account that hosts department videos, including student senior project videos.

Meet the Faculty

- William Allen — Computer Networks
- Annie Becker — Computer Information Systems
- Pat Bond — Software Design and Architecture
- Phil Bernhard — Database Systems
- Phil Chan — Machine Learning and Data Mining
- Richard Ford — Information Assurance and Malicious Code
- Keith Gallagher — Program Slicing, Program Comprehension and Evolution
- Cem Kaner — Software Testing
- Gerald Marin — Computer Networks and Security
- Ronaldo Menezes — Self-Organization and Complex Networks
- Debasis Mitra — Knowledge Management in Science and Engineering
- Richard Newman — Professional Issues in Computing
- Eraldo Ribeiro — Computer Vision, Graphics, and Imaging.
- William Shoaff — Algorithms and Foundations of Computing
- Marius Silaghi — Cryptology and Secure-Multiparty Computations
- Ryan Stansifer — Programming Languages and Compilers
- Scott Tilley — Software Evolution

Florida Institute of Technology
College of Engineering
Department of Computer Sciences

http://cs.fit.edu •150 West University Boulevard, Melbourne, FL 32901-6975 •(321) 674-8673

Abstract

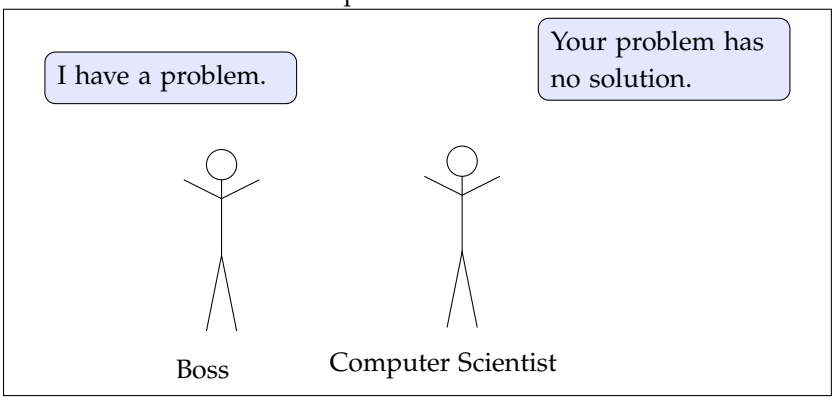
Florida Tech confers the Bachelor of Science degree in several computing disciplines: Computer Science, Software Engineering, Computer Engineering, Computer Information Systems, and Information Systems. The Computer Information Systems is only offered on-line.

Florida Tech also confers the Bachelor of Arts degree in Business Administration with a Computer Information Systems concentration, and the Associate of Science degree in Computer Information Systems. Both of these degrees are offered on-line.

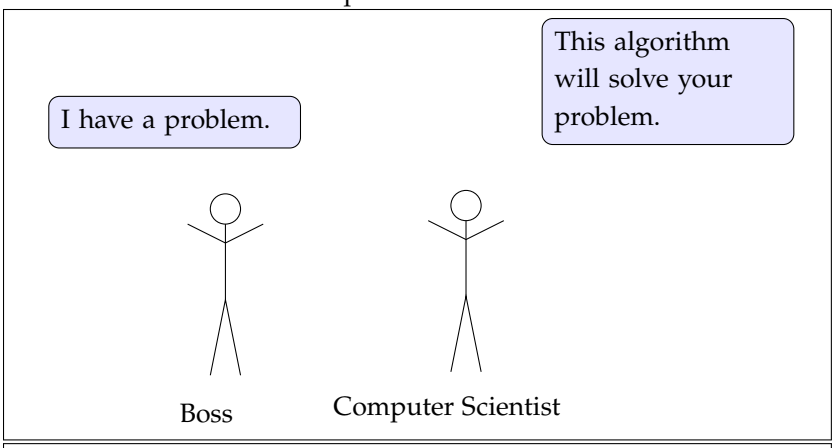
The illustrations here can help compare and contrast the subjects studied in these degree programs and the career paths of people who earn these degree.

Computer Scientist

Boss — Computer Scientist Scenario 1



Boss — Computer Scientist Scenario 2



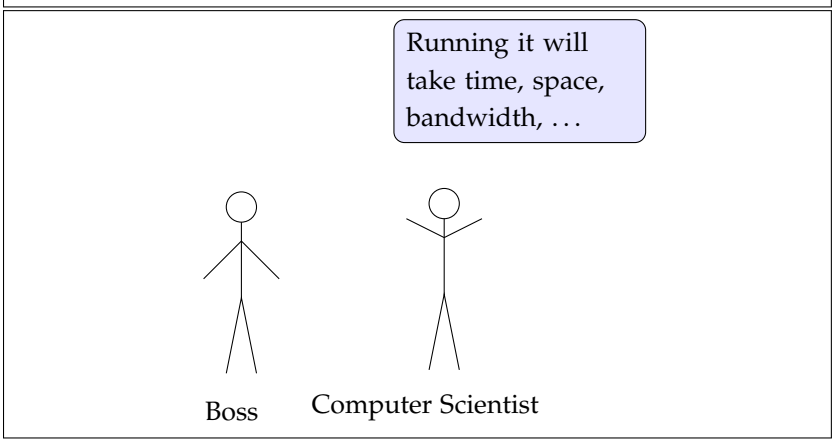


Figure 1, a rendition from (Joint Task Force on Computing Curricula, 2005), illustrates the computer science problem space. To paraphrase from (Joint Task Force on Computing Curricula, 2005).

A computer scientist interest runs from hardware that runs software to organizations that use computing information. Computer scientists design and develop all types of software from systems infrastructure (operating systems, communications programs, etc.) to application technologies (web browsers, databases, search engines, etc.) Moving right, the computer science problem space narrows and then stops because computer scientists do not help people to select computing products, or tailor products to organizational needs, or learn to use such products.

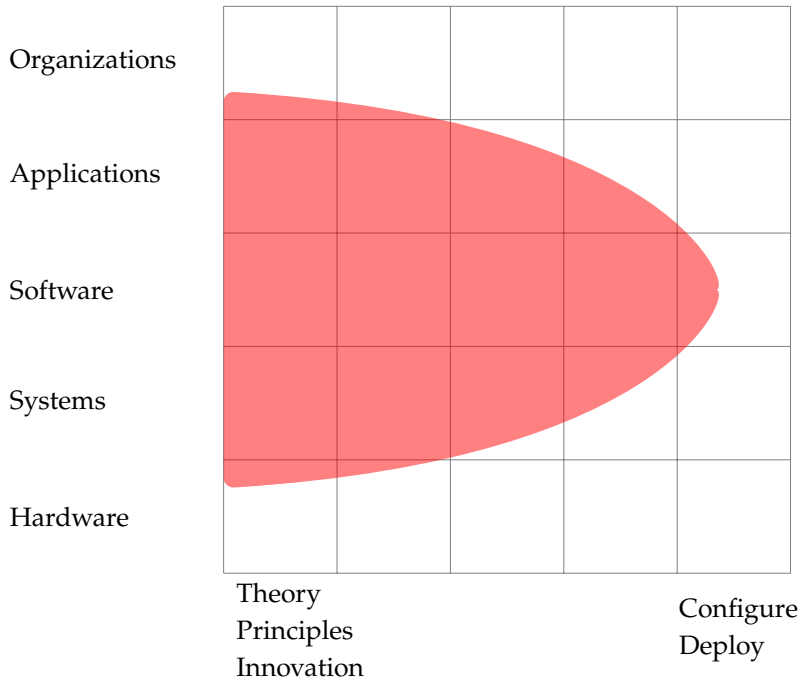


Figure 1: The Computer Science Problem Space.

Software Engineer

Boss — Software Engineer Scenario

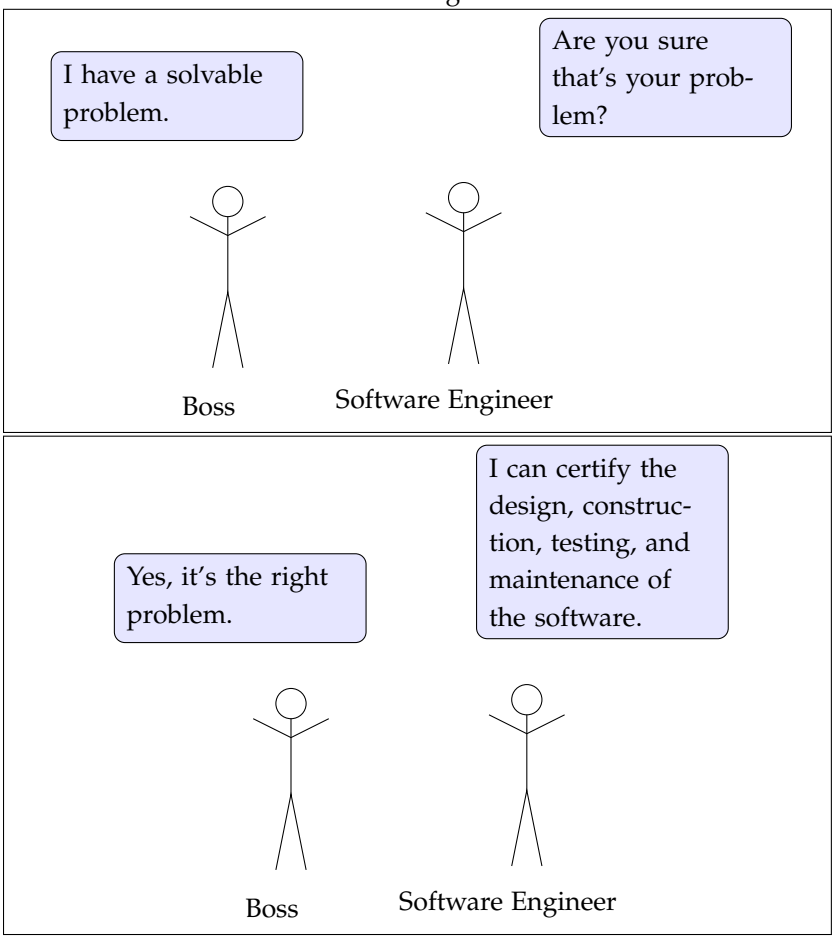


Figure 2, a rendition from (Joint Task Force on Computing Curricula, 2005), illustrates the software engineering problem space. To paraphrase from (Joint Task Force on Computing Curricula, 2005).

Software engineering problems extend from theoretical software models to the daily practices needed to produce reliable, high-quality software on time and within budget. Software engineer design and develop a wide range of software from embedded, to systems-level, to high-level applications that are appropriate to a client organization.

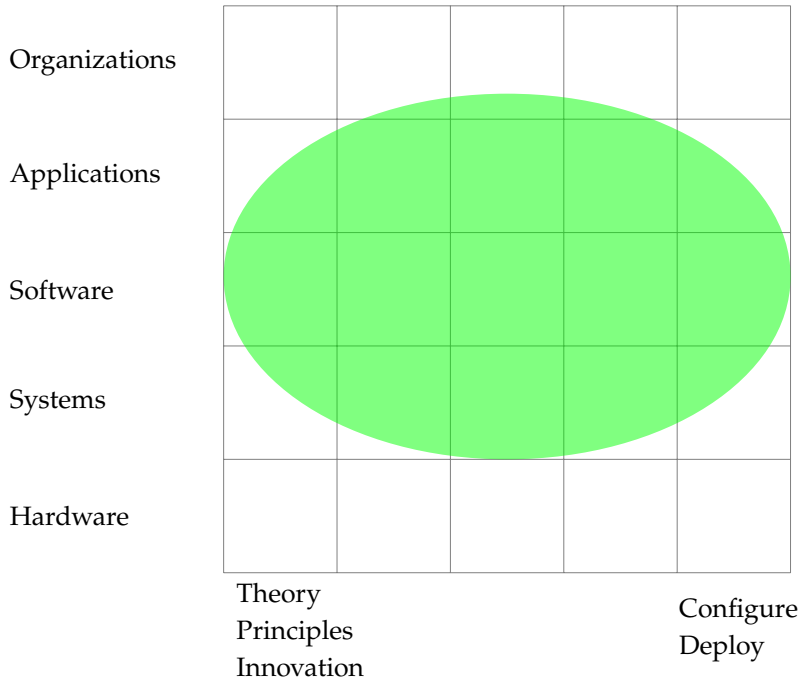


Figure 2: The Software Engineering Problem Space.

Computer Engineer

Boss — Computer Engineer Scenario

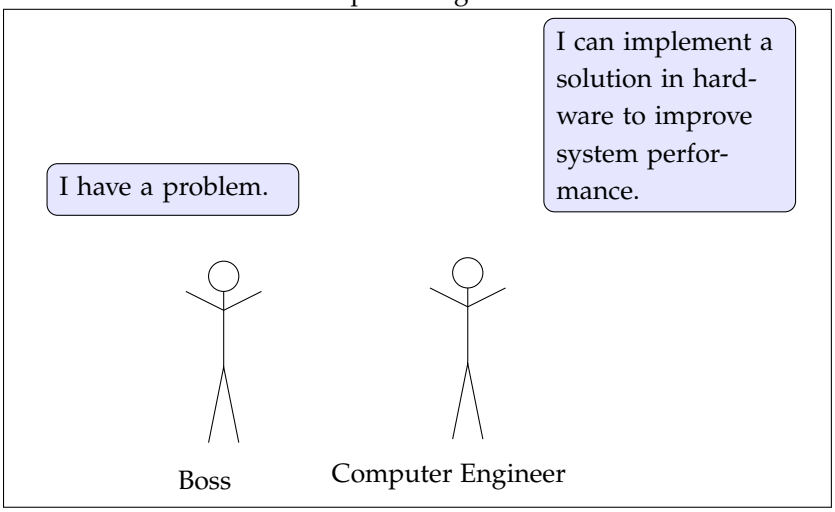


Figure 3, a rendition from (Joint Task Force on Computing Curricula, 2005), illustrates the computer engineering problem space. To paraphrase from (Joint Task Force on Computing Curricula, 2005).

Computer engineering covers the range from theory and principles to the practical application of designing and implementing products using hardware and software. A computer engineer's interests narrow as problems move away from hardware. A computer engineer cares about software only because they need it to develop integrated devices.

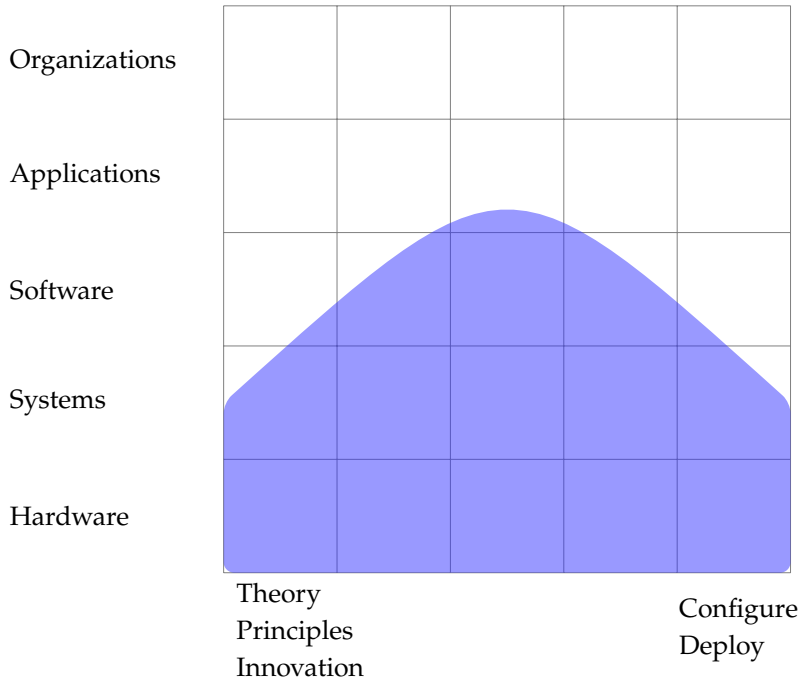


Figure 3: The Computer Engineering Problem Space.

Computer and Information Systems Managers

Boss — Computer and Information Systems Manager Scenario

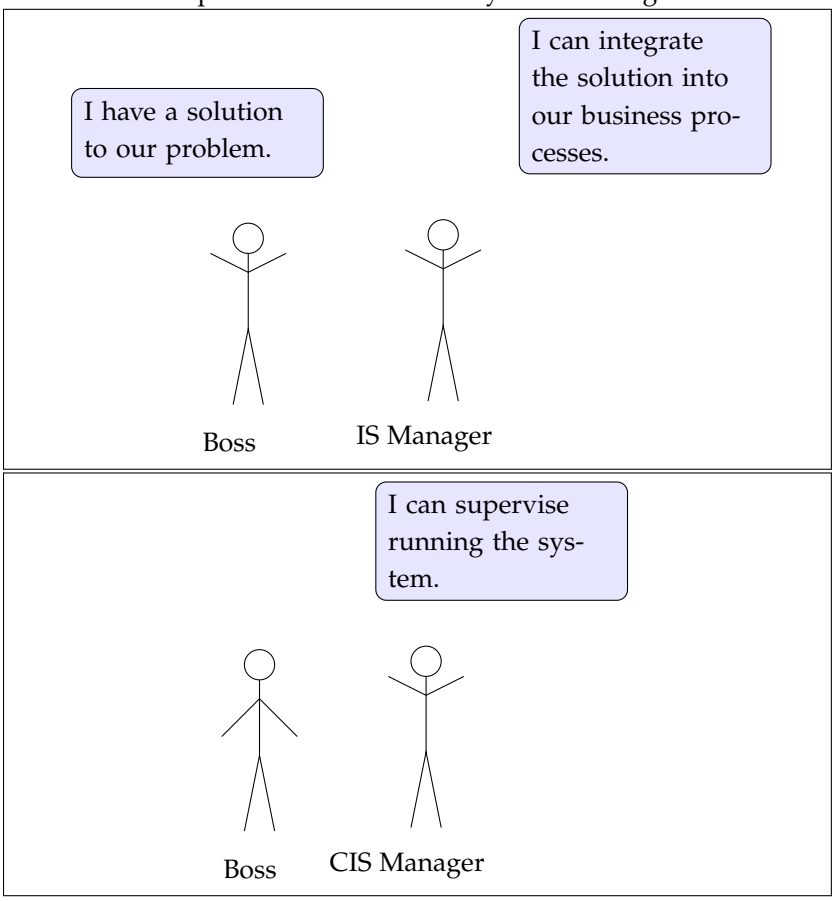


Figure 4, a rendition from (Joint Task Force on Computing Curricula, 2005), illustrates the computer and information system problem space. To paraphrase from (Joint Task Force on Computing Curricula, 2005).

Computer and information systems managers interests extending from theory and principles to application and development. Information systems managers have more interest in theory and principles of information systems and the organizations that they serve. They tend to work on problems on the left side of figure 4. Computer information systems managers are involved in system deployment and configuration and the training of users. The problems they solve are on the right side of figure 4. Computer and information systems managers can develop systems that utilize other software products, especially databases, to suit their organizations' needs for information. Figure 4 does not illustrate core business knowledge that is essential for computer and information systems managers.

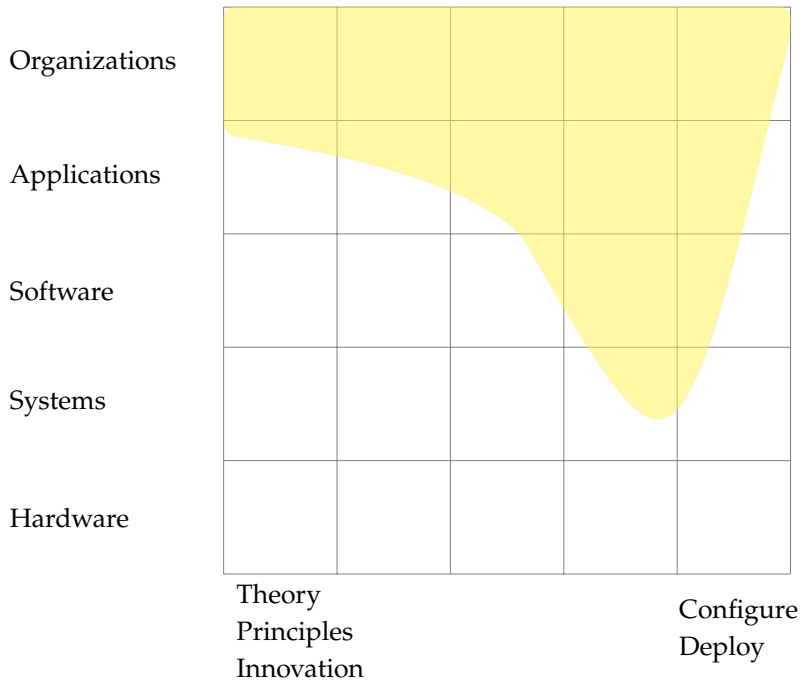


Figure 4: The Computer and Information Systems Problem Space.

The previous figures are superimposed in figure 5. This somewhat confusing image shows relationships among undergraduate academic computing offered through Florida Tech.

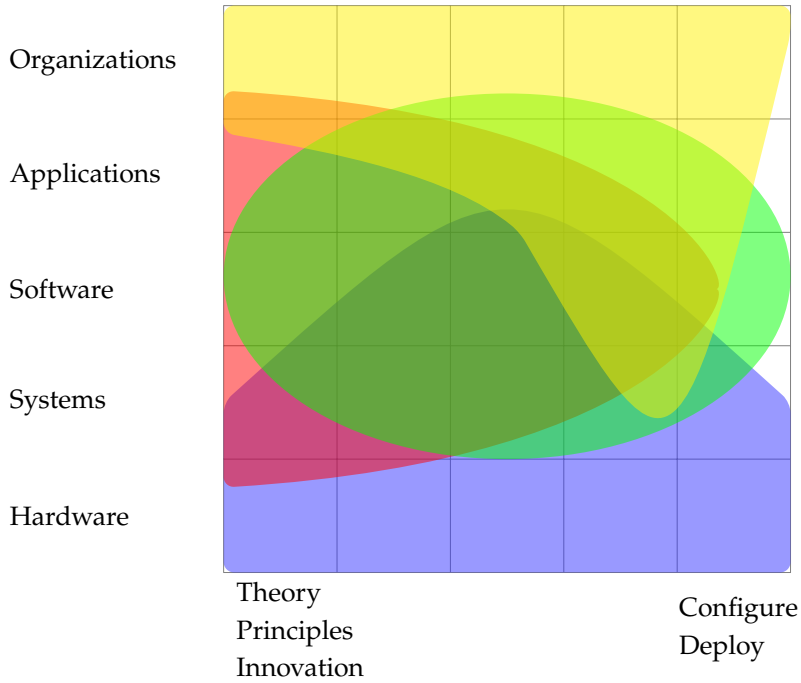
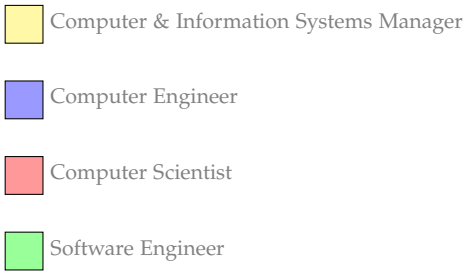


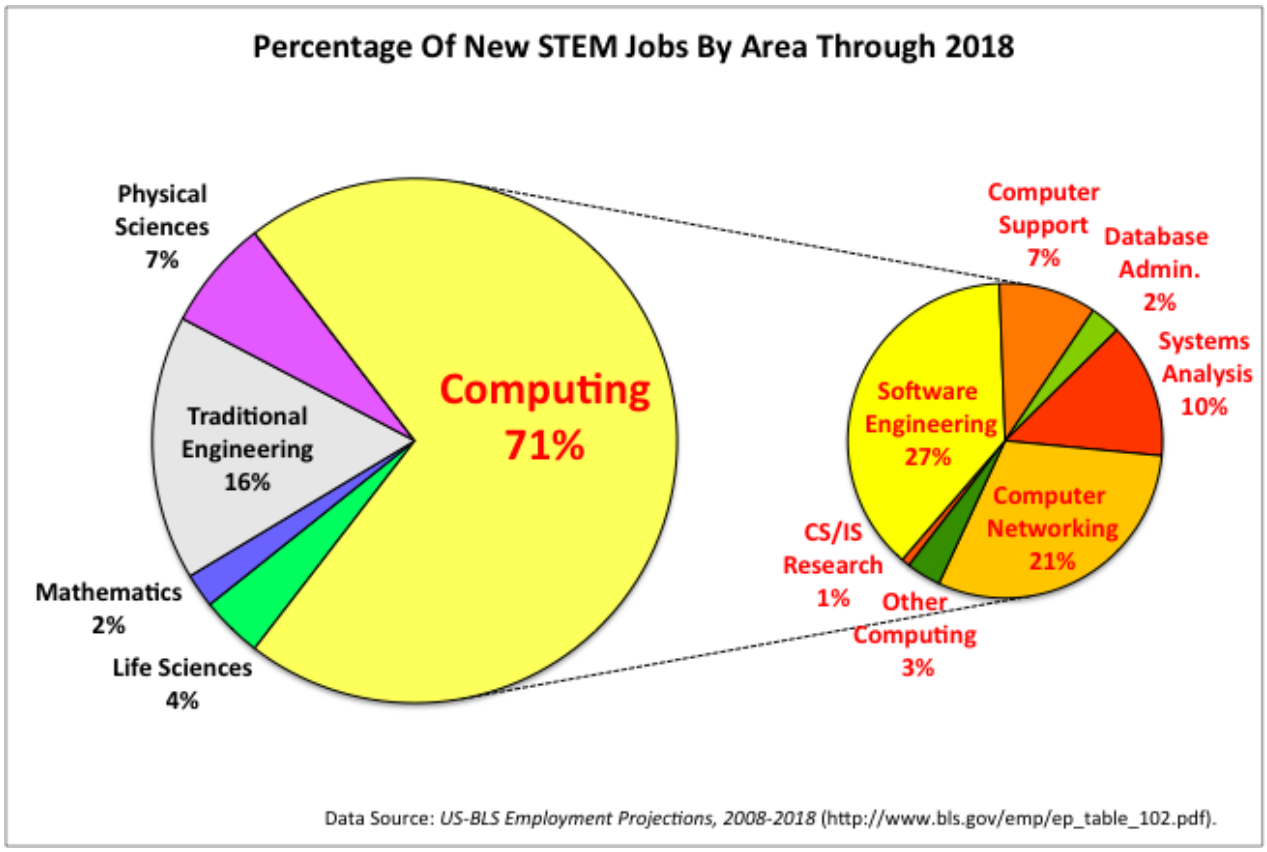
Figure 5: Computing Disciplines and Their Problem Spaces.

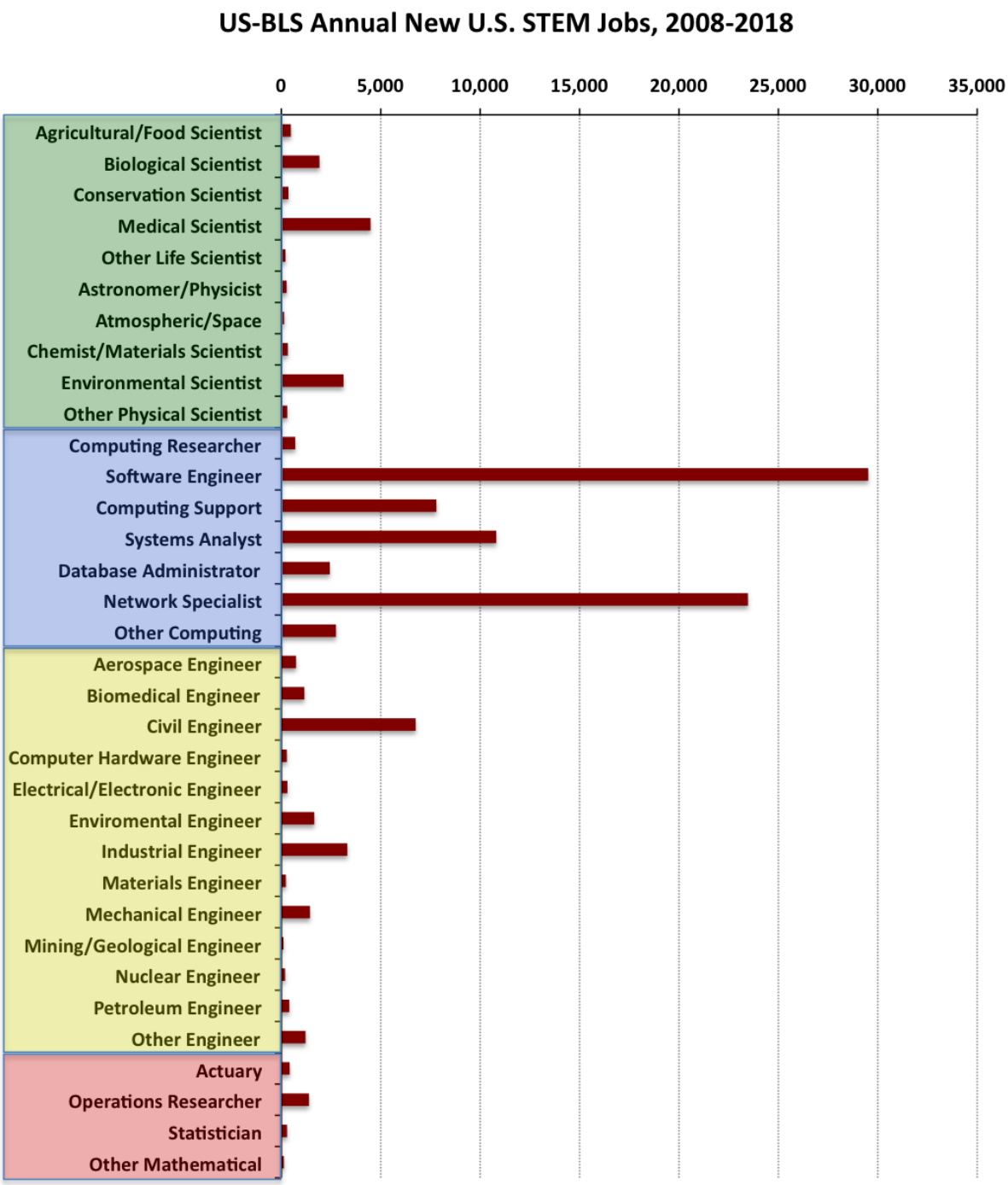


Career Opportunities

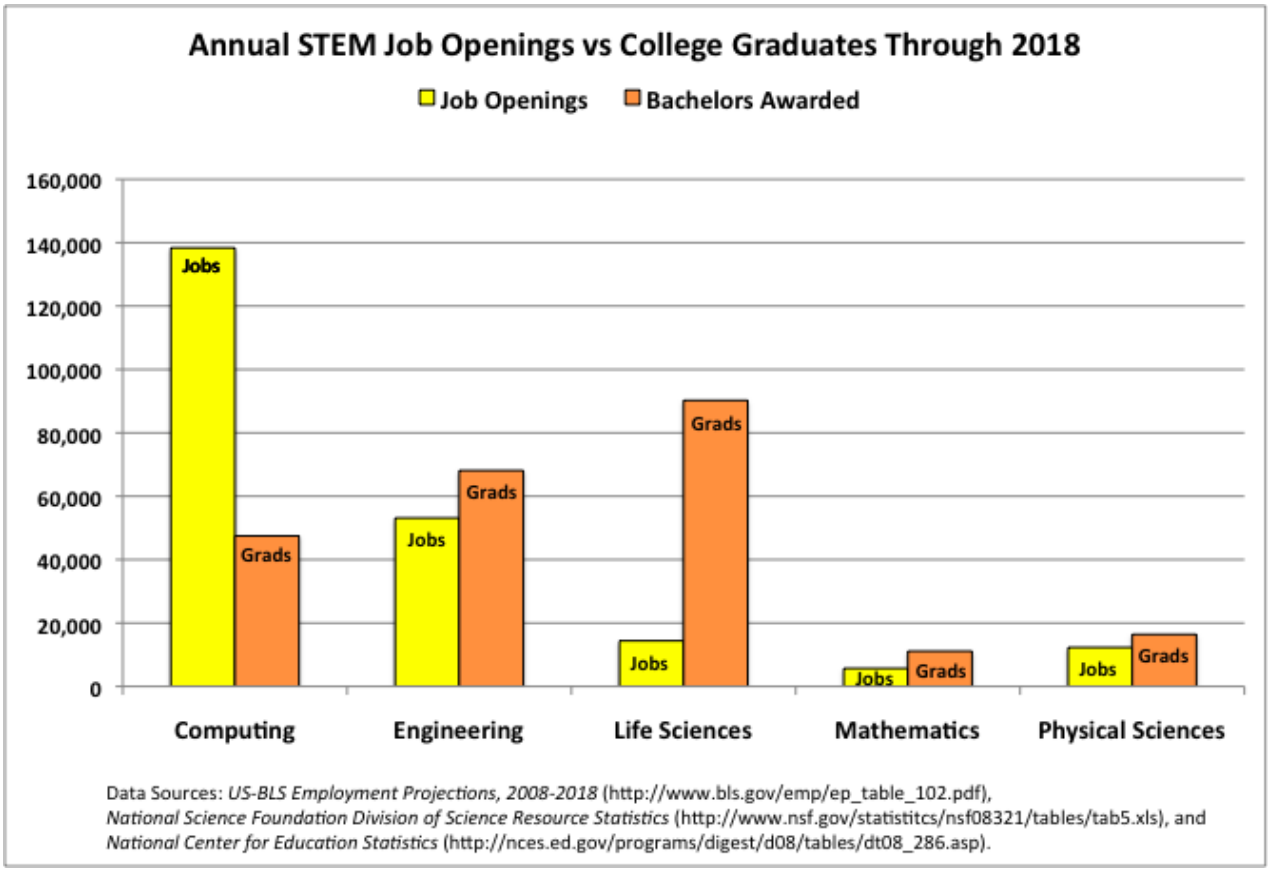
The three graphs below are from Joel Adam (Adams, 2010). The STEM acronym, used in the captions, stands for science, technology, engineering, and mathematics. The first graph predicts that over the period 2008 – 2018, 70% of the STEM job opening will be in computing. The second graph provides a more detailed analysis of job opening across the STEM disciplines. The third graph predicts that there will be more graduates than job opening in all STEM disciplines, except for computing.

One conclusion that students might draw is that if they are not going to major in computing, it would wise to minor in the field.


Percentage Of New STEM Jobs By Area Through 2018
Physical Sciences 7%
Traditional Engineering 16%
Mathematics 2%
Life Sciences 4%
Computing 71%
Computer Support 7%
Database Admin. 2%
Systems Analysis 10%
Software Engineering 27%
Computer Networking 21%
CS/IS Research 1%
Other Computing 3%
Data Source: US-BLS Employment Projections, 2008-2018 (http://www.bls.gov/emp/ep_table_102.pdf).



Data source: *US-BLS Employment Projections, 2008-2018* (http://www.bls.gov/emp/emp_table_102.pdf)



References

Adams, J. (2010). The market for computing careers. http://cs.calvin.edu/p/ComputingCareersMarket. Retrieved on given date.

Joint Task Force on Computing Curricula (2005). Computing curricula 2005: The overview report. Technical report, IEEE Computer Society, Association for Computing Machinery.