Careers for People with Degrees in Computer Science

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What do they do?

• Software development:
  – They write the programs.
  – Less than before, due to offshoring and importation of engineers on visas to do the work here, but still common.
  – More common now to combine with a field of application, e.g. financial modeling or bioinformatics. For those, might be better to major in the field of application, with a minor in computer science.

• System and database administrators:
  – System administrators set up computers, run the network, “put out fires.”
  – Database administrators not only maintain the database, but also design it, in order to make it fast. E.g. for the Bank of America, speed is crucial.
  – Not offshorable, but do have some visa workers.

• Security experts:
  – Very hot these days, due to 9/11, identity theft, etc.
  – Requires really thorough understanding of how operating systems and networks work.
  – Get hired by a bank or other large business, or by government (e.g. FBI), or be an independent consultant.

• Wheeler-dealers:
  – E.g. you work for Accenture. Accenture has a client, Company X, that needs some software to be developed. You use your background in computer science to formulate a proposal, in terms of features, estimated time to completion and estimated cost.
  – But you don’t actually touch a computer yourself.

What you need to get into this field:
• Degree in computer science, or degree in a field of application and a minor in CS.

• A liking for solving puzzles.

Pros and cons:

• Pro: Intellectually interesting (the puzzle issue again).

• Pro: Good salaries.

• Con: Still not clear what impact globalization will have. (Don’t be fooled by those who downplay this.)

• Con: Age discrimination (even) worse than in other fields.

Compensation:

• New Bachelor’s graduates make about $50,000.

• A typical mid-career software engineer is making something like $90,000.

• If you are highly talented and/or a very successful independent consultant, you can make a lot more.

Role of math and verbal skills:

• Most CS grads almost never make use of formal math. However, math is logical thinking, and logical thinking in crucial in this field.

• Oral and written skills are of the utmost importance. One is constantly making presentations, holding meetings, writing proposals and reports, etc.