

# Jobs for CS Graduates

Stephen A. Edwards

Department of Computer Science

Columbia University

[www.cs.columbia.edu/~sedwards](http://www.cs.columbia.edu/~sedwards)

How many computers do you own?

You're wrong.

# Computers are Everywhere

These days, just about everything has a computer in it.

Digital cameras

Cell phones

Cars

Aircraft

Trains

MP3 players

DVD players

Pagers

Cranes

Microwave ovens

Traffic Lights

Clocks

Ovens

Alarm Systems

Buildings

Just about everything that isn't furniture or an animal.

# How is this possible?

Answer: Gordon Moore, Intel CEO

In 1965, predicted transistors per chip would **double** every 18 months at a fixed cost.

He's been right for over 35 years.

Somebody's got to program these things.

# The Spectrum of CS Jobs

<b>Software is their Product</b>	<b>Other Products, Use Software</b>	<b>More Education</b>
Microsoft	Banks	CS MS/PhD
Oracle	IT departments	MBA
Peoplesoft	Telecom	Law School
Video Games	Sony	
many more...	many more...	

# Companies that Sell Software

There are two markets: consumer and business.

You probably know the consumer ones: Microsoft, Lotus, Game companies, etc.

Many more sell specialized software to business:  
Accounting, HR, CAD, Database

May be less well-known, but jobs just as interesting

Advantages: You are the stars, software is everything to these companies. Good role models.

Disadvantages: Deadlines, debugging, many features are technically uninteresting, but need to be done.

# Companies that use software

Just about everybody else nowadays: banks, consulting firms, electronics companies, etc.

Many have substantial pieces of in-house software (e.g., billing, inventory systems, etc.)

Advantages: You may not be on the company's "critical path."

Disadvantages: May not be held in as high esteem. Management may have less respect.



# More Education

Many students continue on for a Master's degree. (More of the Same) Usually financially advantageous (starting salary higher, better advancement prospects).

A PhD is a whole other matter. Big commitment, big changes. Research positions (AT&T, others) or academia. Financially less clear, intellectually stimulating.

An MS costs \$; a PhD is usually paid for by the professor.

Get some work experience then an MBA. If you like people (yuck), you, too, can be a manager.

Law School. Intellectual property lawyers pull in the \$; technical education mandatory.