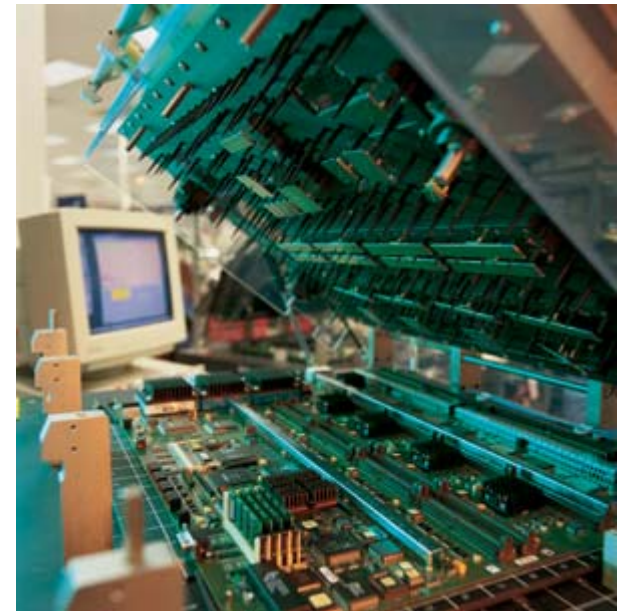


Computer Engineering Specialization

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Introduction



- All aspects of our lives have been transformed by the emergence of
 - internet, e-commerce, mobile phones/PDA, mp3/mp4 player, high-definition TV, medical imaging, etc.
- It is computer engineers who developed the hardware, software and networking technologies that made them possible



iPhone



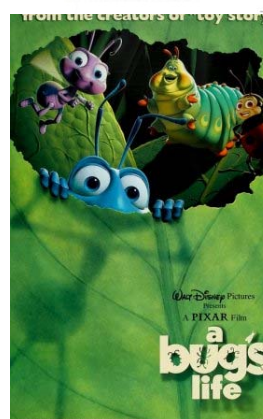
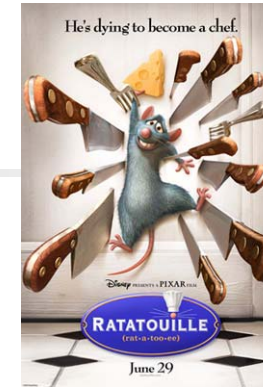
- The world's best handphone was not made by a phone company, but by a computer company
- Siri: Apple's virtual personal assistant found on the iPhone 4S
 - helps users call, text, e-mail, schedule meetings, surf the Web and find answers to complicated context-sensitive questions
 - born out of a \$150 million artificial intelligence project



PIXAR

ANIMATION STUDIOS

- Steven Jobs' computer graphics company that produced box-office hits like *A Bug's Life*; *Toy Story 2*; *Monsters, Inc.*; *Finding Nemo*; *The Incredibles*; *Cars*; *Ratatouille*; *WALL-E*; *Up*; *Toy Story 3*, etc.
- Later bought by Disney
- Steven Jobs' shares in Disney worth nearly twice of his shares in Apple Computer

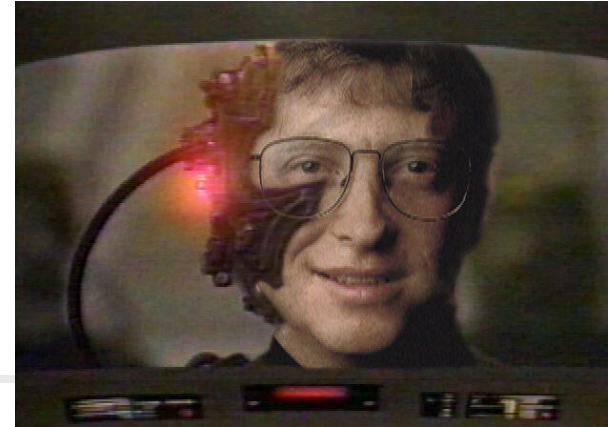


Introduction



- Virtually all businesses
 - from multinational corporations, local small and medium enterprises, government ministries and statutory boards, educational institutions, to service, finance, banking and manufacturing industries
- heavily rely on various computer systems for their day-to-day operations and business transactions

Career Opportunities



- MONEY Magazine picks software engineer as the best job in America
 - growth, pay, stress-levels, etc
- Infocomm Development Authority (iDA) plans to boost the number of infocomm jobs by 55,000 to about 170,000 by 2015
- Computer engineer, database developer/administrator, hardware designer, system integrator, system architect, system analyst, system administrator, programmer, etc.

National Infocomm Scholarship (NIS)

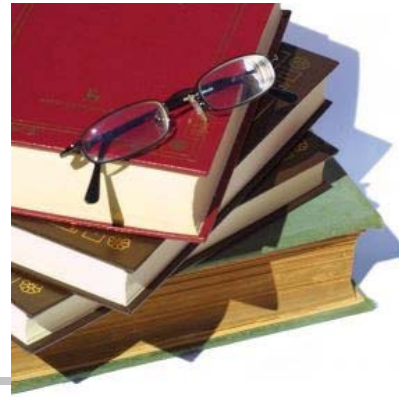
- iDA offers full or partial scholarships to outstanding final-year undergraduates specializing in Computer Engineering
- Partially sponsored by companies such as IBM, Intel, Microsoft, DBS, Singtel and StarHub
- The scholars are required to work for their sponsoring company for 1 year



iDA
SINGAPORE



Studies



- Combines computer systems with conventional aspects of electrical and electronic engineering
- Covers computer hardware, software, and networking
- Interesting courses (2 designs + 4 electives)
 - Web application design, enterprise network design
 - Database systems, embedded systems, artificial intelligence & data mining, multimedia systems, computer architecture, computer security, computer networking



Design



- EE4717 Web Application Design
 - Prerequisite: Nil
 - Design and construct web portals/applications
 - With an in-house project
- EE4718 Enterprise Network Design
 - Prerequisite: EE3017 Computer Communications
 - Design, set up and manage an IP-based enterprise network
 - Acquire practical skills in planning and configuring an IP network
 - Simulate, monitor, analyze network performance



Technical Electives



- EE4791 Database Systems
 - Prerequisite: Nil
 - Almost all business and engineering systems rely on databases
 - Data modeling, logical and physical database design, query language, database administration
- EE4455 Embedded Systems
 - Prerequisite: EE3002 Microprocessor
 - Portable embedded systems, e.g., MP3 player, digital camera, digital video streaming



Technical Electives



- EE4490 Multimedia Systems
 - Prerequisite: Nil
 - Multimedia networking and communications
 - Multimedia standards, etc.
- EE4483 Artificial Intelligence and Data Mining
 - Prerequisite: Nil
 - Knowledge representations and problem solving techniques
 - Application of machine learning techniques to data mining



Technical Electives



- EE4758 COMPUTER SECURITY
 - Prerequisite: Nil
 - Cryptography
 - Intrusion detection, etc.
- EE4756 COMPUTER ARCHITECTURE
 - Prerequisite: Nil
 - Computer system organization/designs



Technical Electives



- EE4761 COMPUTER NETWORKING
 - Prerequisite: EE3017 Computer Communications
 - Protocols
 - Routing algorithms
 - Congestion and flow control mechanisms
 - Naming and addressing mechanisms

For More Information

- www.ntu.edu.sg/eee/eee3/specialisations
 - Computer Engineering specialization

Join us for a great career !

