

University A. Mira of Bejaia
Faculty of Exact Sciences.
Department of Computer Science.
Level: Master 01
Module: Technical English

Lesson two: computer science fields.

Computer science:

Fields:

- **Computer architecture:** is the design methodology of how computer hardware components interact.
- **Operating system:** is the system software that manages computer hardware and software, it provides an easy way for us to interact with computer and applications.
- **Programming languages and compilers:** programming languages is a type of computer software, it is used to create and develop operating system and different applications. **Compiler:** a special program processes statements written in particular programming languages and turns them into a machine language or code that a computer processor uses.
- **Algorithms, complexity:** complexity (is a measure) is concerned about how fast or slow a particular algorithm performs, or how long an algorithm would take to complete given an input size.
- **Computability theory:** it emerged in 1930's, began by asking questions about limitations of computers and solving problems.
- **Numerical analysis:** study of algorithms that use numerical approximation for the problems of mathematical analyses.
- **Distributed computing:** is a field in computer science that studies the design and behavior of systems that involve many loosely coupled components. These components are connected through a shared memory or network.
- **Parallel computing:** is the use of two or more processors (core, computer) in combination to solve a single problem.
- **Information management/ database systems:** the collection and the management of information from one or more sources and the distribution of that info to one or more audiences.
- **Software development:** the process of developing software through successive phases in an orderly way.

- **Human-computer communication/interaction: (HCI)** is a multidisciplinary field of study focusing on the design of computer technology and , in particular, the interaction between humans and computers.
- **Graphics and visual computing:** generic term for all computer science disciplines handling with images, 3D modules, computer graphics...etc
- **Intelligent systems:** are technologically advanced machines that perceive and respond to the world around them.