**ACM 2012 CSS Keywords (coded for UCL Final Year Projects)**

# [General and reference](javascript:void(0))

## [Document types](javascript:void(0))

### [Surveys and overviews](javascript:void(0))

### [Reference works](javascript:void(0))

### [General conference proceedings](javascript:void(0))

### [Biographies](javascript:void(0))

### [General literature](javascript:void(0))

### [Computing standards, RFCs and guidelines](javascript:void(0))

## [Cross-computing tools and techniques](javascript:void(0))

### [Reliability](javascript:void(0))

### [Empirical studies](javascript:void(0))

### [Measurement](javascript:void(0))

### [Metrics](javascript:void(0))

### [Evaluation](javascript:void(0))

### [Experimentation](javascript:void(0))

### [Estimation](javascript:void(0))

### [Design](javascript:void(0))

### [Performance](javascript:void(0))

### [Validation](javascript:void(0))

### [Verification](javascript:void(0))

# [Hardware](javascript:void(0))

## [Printed circuit boards](javascript:void(0))

### [Electromagnetic interference and compatibility](javascript:void(0))

### [PCB design and layout](javascript:void(0))

## [Communication hardware, interfaces and storage](javascript:void(0))

### [Signal processing systems](javascript:void(0))

#### [Digital signal processing](javascript:void(0))

#### [Beamforming](javascript:void(0))

#### [Noise reduction](javascript:void(0))

### [Sensors and actuators](javascript:void(0))

### [Buses and high-speed links](javascript:void(0))

### [Displays and imagers](javascript:void(0))

### [External storage](javascript:void(0))

### [Networking hardware](javascript:void(0))

### [Printers](javascript:void(0))

### [Sensor applications and deployments](javascript:void(0))

### [Sensor devices and platforms](javascript:void(0))

### [Sound-based input / output](javascript:void(0))

### [Tactile and hand-based interfaces](javascript:void(0))

#### [Touch screens](javascript:void(0))

#### [Haptic devices](javascript:void(0))

### [Scanners](javascript:void(0))

### [Wireless devices](javascript:void(0))

### [Wireless integrated network sensors](javascript:void(0))

### [Electro-mechanical devices](javascript:void(0))

## [Integrated circuits](javascript:void(0))

### [3D integrated circuits](javascript:void(0))

### [Interconnect](javascript:void(0))

#### [Input / output circuits](javascript:void(0))

#### [Metallic interconnect](javascript:void(0))

#### [Photonic and optical interconnect](javascript:void(0))

#### [Radio frequency and wireless interconnect](javascript:void(0))

### [Semiconductor memory](javascript:void(0))

#### [Dynamic memory](javascript:void(0))

#### [Static memory](javascript:void(0))

#### [Non-volatile memory](javascript:void(0))

#### [Read-only memory](javascript:void(0))

### [Digital switches](javascript:void(0))

#### [Transistors](javascript:void(0))

#### [Logic families](javascript:void(0))

### [Logic circuits](javascript:void(0))

#### [Arithmetic and datapath circuits](javascript:void(0))

#### [Asynchronous circuits](javascript:void(0))

#### [Combinational circuits](javascript:void(0))

#### [Design modules and hierarchy](javascript:void(0))

#### [Finite state machines](javascript:void(0))

#### [Sequential circuits](javascript:void(0))

### [Reconfigurable logic and FPGAs](javascript:void(0))

#### [Hardware accelerators](javascript:void(0))

#### [High-speed input / output](javascript:void(0))

#### [Programmable logic elements](javascript:void(0))

#### [Programmable interconnect](javascript:void(0))

#### [Reconfigurable logic applications](javascript:void(0))

#### [Evolvable hardware](javascript:void(0))

## [Very large scale integration design](javascript:void(0))

### [3D integrated circuits](javascript:void(0))

### [Analog and mixed-signal circuits](javascript:void(0))

#### [Data conversion](javascript:void(0))

#### [Clock generation and timing](javascript:void(0))

#### [Analog and mixed-signal circuit optimization](javascript:void(0))

#### [Radio frequency and wireless circuits](javascript:void(0))

#### [Wireline communication](javascript:void(0))

#### [Analog and mixed-signal circuit synthesis](javascript:void(0))

### [Application-specific VLSI designs](javascript:void(0))

#### [Application specific integrated circuits](javascript:void(0))

#### [Application specific instruction set processors](javascript:void(0))

#### [Application specific processors](javascript:void(0))

### [Design reuse and communication-based design](javascript:void(0))

#### [Network on chip](javascript:void(0))

#### [System on a chip](javascript:void(0))

#### [Platform-based design](javascript:void(0))

#### [Hard and soft IP](javascript:void(0))

### [Design rules](javascript:void(0))

### [Economics of chip design and manufacturing](javascript:void(0))

### [Full-custom circuits](javascript:void(0))

### [VLSI design manufacturing considerations](javascript:void(0))

### [On-chip resource management](javascript:void(0))

### [On-chip sensors](javascript:void(0))

### [Standard cell libraries](javascript:void(0))

### [VLSI packaging](javascript:void(0))

#### [Die and wafer stacking](javascript:void(0))

#### [Input / output styles](javascript:void(0))

#### [Multi-chip modules](javascript:void(0))

#### [Package-level interconnect](javascript:void(0))

### [VLSI system specification and constraints](javascript:void(0))

## [Power and energy](javascript:void(0))

### [Thermal issues](javascript:void(0))

#### [Temperature monitoring](javascript:void(0))

#### [Temperature simulation and estimation](javascript:void(0))

#### [Temperature control](javascript:void(0))

#### [Temperature optimization](javascript:void(0))

### [Energy generation and storage](javascript:void(0))

#### [Batteries](javascript:void(0))

#### [Fuel-based energy](javascript:void(0))

#### [Renewable energy](javascript:void(0))

#### [Reusable energy storage](javascript:void(0))

### [Energy distribution](javascript:void(0))

#### [Energy metering](javascript:void(0))

#### [Power conversion](javascript:void(0))

#### [Power networks](javascript:void(0))

#### [Smart grid](javascript:void(0))

### [Impact on the environment](javascript:void(0))

### [Power estimation and optimization](javascript:void(0))

#### [Switching devices power issues](javascript:void(0))

#### [Interconnect power issues](javascript:void(0))

#### [Circuits power issues](javascript:void(0))

#### [Chip-level power issues](javascript:void(0))

#### [Platform power issues](javascript:void(0))

#### [Enterprise level and data centers power issues](javascript:void(0))

## [Electronic design automation](javascript:void(0))

### [High-level and register-transfer level synthesis](javascript:void(0))

#### [Datapath optimization](javascript:void(0))

#### [Hardware-software codesign](javascript:void(0))

#### [Resource binding and sharing](javascript:void(0))

#### [Operations scheduling](javascript:void(0))

### [Hardware description languages and compilation](javascript:void(0))

### [Logic synthesis](javascript:void(0))

#### [Combinational synthesis](javascript:void(0))

#### [Circuit optimization](javascript:void(0))

#### [Sequential synthesis](javascript:void(0))

#### [Technology-mapping](javascript:void(0))

#### [Transistor-level synthesis](javascript:void(0))

### [Modeling and parameter extraction](javascript:void(0))

### [Physical design (EDA)](javascript:void(0))

#### [Clock-network synthesis](javascript:void(0))

#### [Packaging](javascript:void(0))

#### [Partitioning and floorplanning](javascript:void(0))

#### [Placement](javascript:void(0))

#### [Physical synthesis](javascript:void(0))

#### [Power grid design](javascript:void(0))

#### [Wire routing](javascript:void(0))

### [Timing analysis](javascript:void(0))

#### [Electrical-level simulation](javascript:void(0))

#### [Model-order reduction](javascript:void(0))

#### [Compact delay models](javascript:void(0))

#### [Static timing analysis](javascript:void(0))

#### [Statistical timing analysis](javascript:void(0))

#### [Transition-based timing analysis](javascript:void(0))

### [Methodologies for EDA](javascript:void(0))

#### [Best practices for EDA](javascript:void(0))

#### [Design databases for EDA](javascript:void(0))

#### [Software tools for EDA](javascript:void(0))

## [Hardware validation](javascript:void(0))

### [Functional verification](javascript:void(0))

#### [Model checking](javascript:void(0))

#### [Coverage metrics](javascript:void(0))

#### [Equivalence checking](javascript:void(0))

#### [Semi-formal verification](javascript:void(0))

#### [Simulation and emulation](javascript:void(0))

#### [Transaction-level verification](javascript:void(0))

#### [Theorem proving and SAT solving](javascript:void(0))

#### [Assertion checking](javascript:void(0))

### [Physical verification](javascript:void(0))

#### [Design rule checking](javascript:void(0))

#### [Layout-versus-schematics](javascript:void(0))

#### [Power and thermal analysis](javascript:void(0))

#### [Timing analysis and sign-off](javascript:void(0))

### [Post-manufacture validation and debug](javascript:void(0))

#### [Bug detection, localization and diagnosis](javascript:void(0))

#### [Bug fixing (hardware)](javascript:void(0))

#### [Design for debug](javascript:void(0))

## [Hardware test](javascript:void(0))

### [Analog, mixed-signal and radio frequency test](javascript:void(0))

### [Board- and system-level test](javascript:void(0))

### [Defect-based test](javascript:void(0))

### [Design for testability](javascript:void(0))

#### [Built-in self-test](javascript:void(0))

#### [Online test and diagnostics](javascript:void(0))

#### [Test data compression](javascript:void(0))

### [Fault models and test metrics](javascript:void(0))

### [Memory test and repair](javascript:void(0))

### [Hardware reliability screening](javascript:void(0))

### [Test-pattern generation and fault simulation](javascript:void(0))

### [Testing with distributed and parallel systems](javascript:void(0))

## [Robustness](javascript:void(0))

### [Fault tolerance](javascript:void(0))

#### [Error detection and error correction](javascript:void(0))

#### [Failure prediction](javascript:void(0))

#### [Failure recovery, maintenance and self-repair](javascript:void(0))

#### [Redundancy](javascript:void(0))

#### [Self-checking mechanisms](javascript:void(0))

#### [System-level fault tolerance](javascript:void(0))

### [Design for manufacturability](javascript:void(0))

#### [Process variations](javascript:void(0))

#### [Yield and cost modeling](javascript:void(0))

#### [Yield and cost optimization](javascript:void(0))

### [Hardware reliability](javascript:void(0))

#### [Aging of circuits and systems](javascript:void(0))

#### [Circuit hardening](javascript:void(0))

#### [Early-life failures and infant mortality](javascript:void(0))

#### [Process, voltage and temperature variations](javascript:void(0))

#### [Signal integrity and noise analysis](javascript:void(0))

#### [Transient errors and upsets](javascript:void(0))

### [Safety critical systems](javascript:void(0))

## [Emerging technologies](javascript:void(0))

### [Analysis and design of emerging devices and systems](javascript:void(0))

#### [Emerging architectures](javascript:void(0))

#### [Emerging languages and compilers](javascript:void(0))

#### [Emerging simulation](javascript:void(0))

#### [Emerging tools and methodologies](javascript:void(0))

### [Biology-related information processing](javascript:void(0))

#### [Bio-embedded electronics](javascript:void(0))

#### [Neural systems](javascript:void(0))

### [Circuit substrates](javascript:void(0))

#### [III-V compounds](javascript:void(0))

#### [Carbon based electronics](javascript:void(0))

#### [Cellular neural networks](javascript:void(0))

#### [Flexible and printable circuits](javascript:void(0))

#### [Superconducting circuits](javascript:void(0))

### [Electromechanical systems](javascript:void(0))

#### [Microelectromechanical systems](javascript:void(0))

#### [Nanoelectromechanical systems](javascript:void(0))

### [Emerging interfaces](javascript:void(0))

### [Memory and dense storage](javascript:void(0))

### [Emerging optical and photonic technologies](javascript:void(0))

### [Reversible logic](javascript:void(0))

### [Plasmonics](javascript:void(0))

### [Quantum technologies](javascript:void(0))

#### [Single electron devices](javascript:void(0))

#### [Tunneling devices](javascript:void(0))

#### [Quantum computation](javascript:void(0))

##### [Quantum communication and cryptography](javascript:void(0))

##### [Quantum error correction and fault tolerance](javascript:void(0))

#### [Quantum dots and cellular automata](javascript:void(0))

### [Spintronics and magnetic technologies](javascript:void(0))

# [Computer systems organization](javascript:void(0))

## [Architectures](javascript:void(0))

### [Serial architectures](javascript:void(0))

#### [Reduced instruction set computing](javascript:void(0))

#### [Complex instruction set computing](javascript:void(0))

#### [Superscalar architectures](javascript:void(0))

#### [Pipeline computing](javascript:void(0))

#### [Stack machines](javascript:void(0))

### [Parallel architectures](javascript:void(0))

#### [Very long instruction word](javascript:void(0))

#### [Interconnection architectures](javascript:void(0))

#### [Multiple instruction, multiple data](javascript:void(0))

#### [Cellular architectures](javascript:void(0))

#### [Multiple instruction, single data](javascript:void(0))

#### [Single instruction, multiple data](javascript:void(0))

#### [Systolic arrays](javascript:void(0))

#### [Multicore architectures](javascript:void(0))

### [Distributed architectures](javascript:void(0))

#### [Cloud computing](javascript:void(0))

#### [Client-server architectures](javascript:void(0))

#### [n-tier architectures](javascript:void(0))

#### [Peer-to-peer architectures](javascript:void(0))

#### [Grid computing](javascript:void(0))

### [Other architectures](javascript:void(0))

#### [Neural networks](javascript:void(0))

#### [Reconfigurable computing](javascript:void(0))

#### [Analog computers](javascript:void(0))

#### [Data flow architectures](javascript:void(0))

#### [Heterogeneous (hybrid) systems](javascript:void(0))

#### [Self-organizing autonomic computing](javascript:void(0))

#### [Optical computing](javascript:void(0))

#### [Quantum computing](javascript:void(0))

#### [Molecular computing](javascript:void(0))

#### [High-level language architectures](javascript:void(0))

#### [Special purpose systems](javascript:void(0))

## [Embedded and cyber-physical systems](javascript:void(0))

### [Sensor networks](javascript:void(0))

### [Robotics](javascript:void(0))

#### [Robotic components](javascript:void(0))

#### [Robotic control](javascript:void(0))

##### [Evolutionary robotics](javascript:void(0))

#### [Robotic autonomy](javascript:void(0))

#### [External interfaces for robotics](javascript:void(0))

### [Sensors and actuators](javascript:void(0))

### [System on a chip](javascript:void(0))

### [Embedded systems](javascript:void(0))

#### [Firmware](javascript:void(0))

#### [Embedded hardware](javascript:void(0))

#### [Embedded software](javascript:void(0))

## [Real-time systems](javascript:void(0))

### [Real-time operating systems](javascript:void(0))

### [Real-time languages](javascript:void(0))

### [Real-time system specification](javascript:void(0))

### [Real-time system architecture](javascript:void(0))

## [Dependable and fault-tolerant systems and networks](javascript:void(0))

### [Reliability](javascript:void(0))

### [Availability](javascript:void(0))

### [Maintainability and maintenance](javascript:void(0))

### [Processors and memory architectures](javascript:void(0))

### [Secondary storage organization](javascript:void(0))

### [Redundancy](javascript:void(0))

### [Fault-tolerant network topologies](javascript:void(0))

# [Networks](javascript:void(0))

## [Network architectures](javascript:void(0))

### [Network design principles](javascript:void(0))

#### [Layering](javascript:void(0))

#### [Naming and addressing](javascript:void(0))

### [Programming interfaces](javascript:void(0))

## [Network protocols](javascript:void(0))

### [Network protocol design](javascript:void(0))

### [Protocol correctness](javascript:void(0))

#### [Protocol testing and verification](javascript:void(0))

#### [Formal specifications](javascript:void(0))

### [Link-layer protocols](javascript:void(0))

### [Network layer protocols](javascript:void(0))

#### [Routing protocols](javascript:void(0))

#### [Signaling protocols](javascript:void(0))

### [Transport protocols](javascript:void(0))

### [Session protocols](javascript:void(0))

### [Presentation protocols](javascript:void(0))

### [Application layer protocols](javascript:void(0))

#### [Peer-to-peer protocols](javascript:void(0))

### [OAM protocols](javascript:void(0))

#### [Time synchronization protocols](javascript:void(0))

#### [Network policy](javascript:void(0))

### [Cross-layer protocols](javascript:void(0))

### [Network File System (NFS) protocol](javascript:void(0))

## [Network components](javascript:void(0))

### [Intermediate nodes](javascript:void(0))

#### [Routers](javascript:void(0))

#### [Bridges and switches](javascript:void(0))

### [Physical links](javascript:void(0))

#### [Repeaters](javascript:void(0))

### [Middle boxes / network appliances](javascript:void(0))

### [End nodes](javascript:void(0))

#### [Network adapters](javascript:void(0))

#### [Network servers](javascript:void(0))

### [Wireless access points, base stations and infrastructure](javascript:void(0))

#### [Cognitive radios](javascript:void(0))

### [Logical nodes](javascript:void(0))

#### [Network domains](javascript:void(0))

## [Network algorithms](javascript:void(0))

### [Data path algorithms](javascript:void(0))

#### [Packet classification](javascript:void(0))

#### [Deep packet inspection](javascript:void(0))

#### [Packet scheduling](javascript:void(0))

### [Control path algorithms](javascript:void(0))

#### [Network resources allocation](javascript:void(0))

#### [Network control algorithms](javascript:void(0))

#### [Traffic engineering algorithms](javascript:void(0))

#### [Network design and planning algorithms](javascript:void(0))

### [Network economics](javascript:void(0))

## [Network performance evaluation](javascript:void(0))

### [Network performance modeling](javascript:void(0))

### [Network simulations](javascript:void(0))

### [Network experimentation](javascript:void(0))

### [Network performance analysis](javascript:void(0))

### [Network measurement](javascript:void(0))

## [Network properties](javascript:void(0))

### [Network security](javascript:void(0))

#### [Security protocols](javascript:void(0))

#### [Web protocol security](javascript:void(0))

#### [Mobile and wireless security](javascript:void(0))

#### [Denial-of-service attacks](javascript:void(0))

#### [Firewalls](javascript:void(0))

### [Network range](javascript:void(0))

#### [Short-range networks](javascript:void(0))

#### [Local area networks](javascript:void(0))

#### [Metropolitan area networks](javascript:void(0))

#### [Wide area networks](javascript:void(0))

#### [Very long-range networks](javascript:void(0))

### [Network structure](javascript:void(0))

#### [Topology analysis and generation](javascript:void(0))

#### [Physical topologies](javascript:void(0))

#### [Logical / virtual topologies](javascript:void(0))

#### [Network topology types](javascript:void(0))

##### [Point-to-point networks](javascript:void(0))

##### [Bus networks](javascript:void(0))

##### [Star networks](javascript:void(0))

##### [Ring networks](javascript:void(0))

[Token ring networks](javascript:void(0))

[Fiber distributed data interface (FDDI)](javascript:void(0))

##### [Mesh networks](javascript:void(0))

[Wireless mesh networks](javascript:void(0))

##### [Hybrid networks](javascript:void(0))

### [Network dynamics](javascript:void(0))

### [Network reliability](javascript:void(0))

#### [Error detection and error correction](javascript:void(0))

### [Network mobility](javascript:void(0))

### [Network manageability](javascript:void(0))

### [Network privacy and anonymity](javascript:void(0))

## [Network services](javascript:void(0))

### [Naming and addressing](javascript:void(0))

### [Cloud computing](javascript:void(0))

### [Location based services](javascript:void(0))

### [Programmable networks](javascript:void(0))

### [In-network processing](javascript:void(0))

### [Network management](javascript:void(0))

### [Network monitoring](javascript:void(0))

## [Network types](javascript:void(0))

### [Network on chip](javascript:void(0))

### [Home networks](javascript:void(0))

### [Storage area networks](javascript:void(0))

### [Data center networks](javascript:void(0))

### [Wired access networks](javascript:void(0))

### [Cyber-physical networks](javascript:void(0))

#### [Sensor networks](javascript:void(0))

### [Mobile networks](javascript:void(0))

### [Overlay and other logical network structures](javascript:void(0))

#### [Peer-to-peer networks](javascript:void(0))

#### [World Wide Web (network structure)](javascript:void(0))

#### [Social media networks](javascript:void(0))

#### [Online social networks](javascript:void(0))

### [Wireless access networks](javascript:void(0))

#### [Wireless local area networks](javascript:void(0))

#### [Wireless personal area networks](javascript:void(0))

### [Ad hoc networks](javascript:void(0))

#### [Mobile ad hoc networks](javascript:void(0))

### [Public Internet](javascript:void(0))

### [Packet-switching networks](javascript:void(0))

# [Software and its engineering](javascript:void(0))

## [Software organization and properties](javascript:void(0))

### [Contextual software domains](javascript:void(0))

#### [E-commerce infrastructure](javascript:void(0))

#### [Software infrastructure](javascript:void(0))

##### [Interpreters](javascript:void(0))

##### [Middleware](javascript:void(0))

[Message oriented middleware](javascript:void(0))

[Reflective middleware](javascript:void(0))

[Embedded middleware](javascript:void(0))

##### [Virtual machines](javascript:void(0))

#### [Operating systems](javascript:void(0))

##### [File systems management](javascript:void(0))

##### [Memory management](javascript:void(0))

[Virtual memory](javascript:void(0))

[Main memory](javascript:void(0))

[Allocation / deallocation strategies](javascript:void(0))

[Garbage collection](javascript:void(0))

[Distributed memory](javascript:void(0))

[Secondary storage](javascript:void(0))

##### [Process management](javascript:void(0))

[Scheduling](javascript:void(0))

[Deadlocks](javascript:void(0))

[Multithreading](javascript:void(0))

[Multiprocessing / multiprogramming / multitasking](javascript:void(0))

[Monitors](javascript:void(0))

[Mutual exclusion](javascript:void(0))

[Concurrency control](javascript:void(0))

[Power management](javascript:void(0))

[Process synchronization](javascript:void(0))

##### [Communications management](javascript:void(0))

[Buffering](javascript:void(0))

[Input / output](javascript:void(0))

[Message passing](javascript:void(0))

#### [Virtual worlds software](javascript:void(0))

##### [Interactive games](javascript:void(0))

##### [Virtual worlds training simulations](javascript:void(0))

### [Software system structures](javascript:void(0))

#### [Embedded software](javascript:void(0))

#### [Software architectures](javascript:void(0))

##### [n-tier architectures](javascript:void(0))

##### [Peer-to-peer architectures](javascript:void(0))

##### [Data flow architectures](javascript:void(0))

##### [Cooperating communicating processes](javascript:void(0))

##### [Layered systems](javascript:void(0))

##### [Publish-subscribe / event-based architectures](javascript:void(0))

##### [Electronic blackboards](javascript:void(0))

##### [Simulator / interpreter](javascript:void(0))

##### [Object oriented architectures](javascript:void(0))

##### [Tightly coupled architectures](javascript:void(0))

##### [Space-based architectures](javascript:void(0))

##### [3-tier architectures](javascript:void(0))

#### [Software system models](javascript:void(0))

##### [Petri nets](javascript:void(0))

##### [State systems](javascript:void(0))

##### [Entity relationship modeling](javascript:void(0))

##### [Model-driven software engineering](javascript:void(0))

##### [Feature interaction](javascript:void(0))

##### [Massively parallel systems](javascript:void(0))

#### [Ultra-large-scale systems](javascript:void(0))

#### [Distributed systems organizing principles](javascript:void(0))

##### [Cloud computing](javascript:void(0))

##### [Client-server architectures](javascript:void(0))

##### [Grid computing](javascript:void(0))

##### [Organizing principles for web applications](javascript:void(0))

#### [Real-time systems software](javascript:void(0))

#### [Abstraction, modeling and modularity](javascript:void(0))

### [Software functional properties](javascript:void(0))

#### [Correctness](javascript:void(0))

##### [Synchronization](javascript:void(0))

##### [Functionality](javascript:void(0))

##### [Real-time schedulability](javascript:void(0))

##### [Consistency](javascript:void(0))

##### [Completeness](javascript:void(0))

##### [Access protection](javascript:void(0))

#### [Formal methods](javascript:void(0))

##### [Model checking](javascript:void(0))

##### [Software verification](javascript:void(0))

##### [Automated static analysis](javascript:void(0))

##### [Dynamic analysis](javascript:void(0))

### [Extra-functional properties](javascript:void(0))

#### [Interoperability](javascript:void(0))

#### [Software performance](javascript:void(0))

#### [Software reliability](javascript:void(0))

#### [Software fault tolerance](javascript:void(0))

##### [Checkpoint / restart](javascript:void(0))

#### [Software safety](javascript:void(0))

#### [Software usability](javascript:void(0))

## [Software notations and tools](javascript:void(0))

### [General programming languages](javascript:void(0))

#### [Language types](javascript:void(0))

##### [Parallel programming languages](javascript:void(0))

##### [Distributed programming languages](javascript:void(0))

##### [Imperative languages](javascript:void(0))

##### [Object oriented languages](javascript:void(0))

##### [Functional languages](javascript:void(0))

##### [Concurrent programming languages](javascript:void(0))

##### [Constraint and logic languages](javascript:void(0))

##### [Data flow languages](javascript:void(0))

##### [Extensible languages](javascript:void(0))

##### [Assembly languages](javascript:void(0))

##### [Multiparadigm languages](javascript:void(0))

##### [Very high level languages](javascript:void(0))

#### [Language features](javascript:void(0))

##### [Abstract data types](javascript:void(0))

##### [Polymorphism](javascript:void(0))

##### [Inheritance](javascript:void(0))

##### [Control structures](javascript:void(0))

##### [Data types and structures](javascript:void(0))

##### [Classes and objects](javascript:void(0))

##### [Modules / packages](javascript:void(0))

##### [Constraints](javascript:void(0))

##### [Recursion](javascript:void(0))

##### [Concurrent programming structures](javascript:void(0))

##### [Procedures, functions and subroutines](javascript:void(0))

##### [Patterns](javascript:void(0))

##### [Coroutines](javascript:void(0))

##### [Frameworks](javascript:void(0))

### [Formal language definitions](javascript:void(0))

#### [Syntax](javascript:void(0))

#### [Semantics](javascript:void(0))

### [Compilers](javascript:void(0))

#### [Interpreters](javascript:void(0))

#### [Incremental compilers](javascript:void(0))

#### [Retargetable compilers](javascript:void(0))

#### [Just-in-time compilers](javascript:void(0))

#### [Dynamic compilers](javascript:void(0))

#### [Translator writing systems and compiler generators](javascript:void(0))

#### [Source code generation](javascript:void(0))

#### [Runtime environments](javascript:void(0))

#### [Preprocessors](javascript:void(0))

#### [Parsers](javascript:void(0))

### [Context specific languages](javascript:void(0))

#### [Markup languages](javascript:void(0))

##### [Extensible Markup Language (XML)](javascript:void(0))

##### [Hypertext languages](javascript:void(0))

#### [Scripting languages](javascript:void(0))

#### [Domain specific languages](javascript:void(0))

#### [Specialized application languages](javascript:void(0))

#### [API languages](javascript:void(0))

#### [Graphical user interface languages](javascript:void(0))

#### [Window managers](javascript:void(0))

#### [Command and control languages](javascript:void(0))

#### [Macro languages](javascript:void(0))

#### [Programming by example](javascript:void(0))

#### [State based definitions](javascript:void(0))

#### [Visual languages](javascript:void(0))

#### [Interface definition languages](javascript:void(0))

### [System description languages](javascript:void(0))

#### [Design languages](javascript:void(0))

#### [Unified Modeling Language (UML)](javascript:void(0))

#### [Architecture description languages](javascript:void(0))

#### [System modeling languages](javascript:void(0))

#### [Orchestration languages](javascript:void(0))

#### [Integration frameworks](javascript:void(0))

#### [Specification languages](javascript:void(0))

### [Development frameworks and environments](javascript:void(0))

#### [Object oriented frameworks](javascript:void(0))

#### [Software as a service orchestration system](javascript:void(0))

#### [Integrated and visual development environments](javascript:void(0))

#### [Application specific development environments](javascript:void(0))

### [Software configuration management and version control systems](javascript:void(0))

### [Software libraries and repositories](javascript:void(0))

### [Software maintenance tools](javascript:void(0))

## [Software creation and management](javascript:void(0))

### [Designing software](javascript:void(0))

#### [Requirements analysis](javascript:void(0))

#### [Software design engineering](javascript:void(0))

#### [Software design tradeoffs](javascript:void(0))

#### [Software implementation planning](javascript:void(0))

##### [Software design techniques](javascript:void(0))

### [Software development process management](javascript:void(0))

#### [Software development methods](javascript:void(0))

##### [Rapid application development](javascript:void(0))

##### [Agile software development](javascript:void(0))

##### [Capability Maturity Model](javascript:void(0))

##### [Waterfall model](javascript:void(0))

##### [Spiral model](javascript:void(0))

##### [V-model](javascript:void(0))

##### [Design patterns](javascript:void(0))

#### [Risk management](javascript:void(0))

### [Software development techniques](javascript:void(0))

#### [Software prototyping](javascript:void(0))

#### [Object oriented development](javascript:void(0))

#### [Flowcharts](javascript:void(0))

#### [Reusability](javascript:void(0))

##### [Software product lines](javascript:void(0))

#### [Error handling and recovery](javascript:void(0))

#### [Automatic programming](javascript:void(0))

##### [Genetic programming](javascript:void(0))

### [Software verification and validation](javascript:void(0))

#### [Software prototyping](javascript:void(0))

#### [Operational analysis](javascript:void(0))

#### [Software defect analysis](javascript:void(0))

##### [Software testing and debugging](javascript:void(0))

#### [Fault tree analysis](javascript:void(0))

#### [Process validation](javascript:void(0))

##### [Walkthroughs](javascript:void(0))

##### [Pair programming](javascript:void(0))

##### [Use cases](javascript:void(0))

##### [Acceptance testing](javascript:void(0))

##### [Traceability](javascript:void(0))

#### [Formal software verification](javascript:void(0))

#### [Empirical software validation](javascript:void(0))

### [Software post-development issues](javascript:void(0))

#### [Software reverse engineering](javascript:void(0))

#### [Documentation](javascript:void(0))

#### [Backup procedures](javascript:void(0))

#### [Software evolution](javascript:void(0))

#### [Software version control](javascript:void(0))

#### [Maintaining software](javascript:void(0))

#### [System administration](javascript:void(0))

### [Collaboration in software development](javascript:void(0))

#### [Open source model](javascript:void(0))

#### [Programming teams](javascript:void(0))

### [Search-based software engineering](javascript:void(0))

# [Theory of computation](javascript:void(0))

## [Models of computation](javascript:void(0))

### [Computability](javascript:void(0))

#### [Lambda calculus](javascript:void(0))

#### [Turing machines](javascript:void(0))

#### [Recursive functions](javascript:void(0))

### [Probabilistic computation](javascript:void(0))

### [Quantum computation theory](javascript:void(0))

#### [Quantum complexity theory](javascript:void(0))

#### [Quantum communication complexity](javascript:void(0))

#### [Quantum query complexity](javascript:void(0))

#### [Quantum information theory](javascript:void(0))

### [Interactive computation](javascript:void(0))

### [Streaming models](javascript:void(0))

### [Concurrency](javascript:void(0))

#### [Parallel computing models](javascript:void(0))

#### [Distributed computing models](javascript:void(0))

#### [Process calculi](javascript:void(0))

### [Timed and hybrid models](javascript:void(0))

### [Abstract machines](javascript:void(0))

## [Formal languages and automata theory](javascript:void(0))

### [Formalisms](javascript:void(0))

#### [Algebraic language theory](javascript:void(0))

#### [Rewrite systems](javascript:void(0))

### [Automata over infinite objects](javascript:void(0))

### [Grammars and context-free languages](javascript:void(0))

### [Tree languages](javascript:void(0))

### [Automata extensions](javascript:void(0))

#### [Transducers](javascript:void(0))

#### [Quantitative automata](javascript:void(0))

### [Regular languages](javascript:void(0))

## [Computational complexity and cryptography](javascript:void(0))

### [Complexity classes](javascript:void(0))

### [Problems, reductions and completeness](javascript:void(0))

### [Communication complexity](javascript:void(0))

### [Circuit complexity](javascript:void(0))

### [Oracles and decision trees](javascript:void(0))

### [Algebraic complexity theory](javascript:void(0))

### [Quantum complexity theory](javascript:void(0))

### [Proof complexity](javascript:void(0))

### [Interactive proof systems](javascript:void(0))

### [Complexity theory and logic](javascript:void(0))

### [Cryptographic primitives](javascript:void(0))

### [Cryptographic protocols](javascript:void(0))

## [Logic](javascript:void(0))

### [Logic and verification](javascript:void(0))

### [Proof theory](javascript:void(0))

### [Modal and temporal logics](javascript:void(0))

### [Automated reasoning](javascript:void(0))

### [Constraint and logic programming](javascript:void(0))

### [Constructive mathematics](javascript:void(0))

### [Description logics](javascript:void(0))

### [Equational logic and rewriting](javascript:void(0))

### [Finite Model Theory](javascript:void(0))

### [Higher order logic](javascript:void(0))

### [Linear logic](javascript:void(0))

### [Programming logic](javascript:void(0))

### [Abstraction](javascript:void(0))

### [Verification by model checking](javascript:void(0))

### [Type theory](javascript:void(0))

### [Hoare logic](javascript:void(0))

### [Separation logic](javascript:void(0))

## [Design and analysis of algorithms](javascript:void(0))

### [Graph algorithms analysis](javascript:void(0))

#### [Network flows](javascript:void(0))

#### [Sparsification and spanners](javascript:void(0))

#### [Shortest paths](javascript:void(0))

#### [Dynamic graph algorithms](javascript:void(0))

### [Approximation algorithms analysis](javascript:void(0))

#### [Scheduling algorithms](javascript:void(0))

#### [Packing and covering problems](javascript:void(0))

#### [Routing and network design problems](javascript:void(0))

#### [Facility location and clustering](javascript:void(0))

#### [Rounding techniques](javascript:void(0))

#### [Stochastic approximation](javascript:void(0))

#### [Numeric approximation algorithms](javascript:void(0))

### [Mathematical optimization](javascript:void(0))

#### [Discrete optimization](javascript:void(0))

##### [Network optimization](javascript:void(0))

##### [Optimization with randomized search heuristics](javascript:void(0))

[Simulated annealing](javascript:void(0))

[Evolutionary algorithms](javascript:void(0))

[Tabu search](javascript:void(0))

[Randomized local search](javascript:void(0))

#### [Continuous optimization](javascript:void(0))

##### [Linear programming](javascript:void(0))

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##### [Convex optimization](javascript:void(0))

##### [Quasiconvex programming and unimodality](javascript:void(0))

##### [Stochastic control and optimization](javascript:void(0))

##### [Quadratic programming](javascript:void(0))

##### [Nonconvex optimization](javascript:void(0))

##### [Bio-inspired optimization](javascript:void(0))

#### [Mixed discrete-continuous optimization](javascript:void(0))

##### [Submodular optimization and polymatroids](javascript:void(0))

##### [Integer programming](javascript:void(0))

##### [Bio-inspired optimization](javascript:void(0))

#### [Non-parametric optimization](javascript:void(0))

##### [Genetic programming](javascript:void(0))

##### [Developmental representations](javascript:void(0))

### [Data structures design and analysis](javascript:void(0))

#### [Data compression](javascript:void(0))

#### [Pattern matching](javascript:void(0))

#### [Sorting and searching](javascript:void(0))

#### [Predecessor queries](javascript:void(0))

#### [Cell probe models and lower bounds](javascript:void(0))

### [Online algorithms](javascript:void(0))

#### [Online learning algorithms](javascript:void(0))

##### [Scheduling algorithms](javascript:void(0))

#### [Caching and paging algorithms](javascript:void(0))

#### [K-server algorithms](javascript:void(0))

#### [Adversary models](javascript:void(0))

### [Parameterized complexity and exact algorithms](javascript:void(0))

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#### [Sketching and sampling](javascript:void(0))

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#### [Random order and robust communication complexity](javascript:void(0))

#### [Nearest neighbor algorithms](javascript:void(0))

### [Parallel algorithms](javascript:void(0))

#### [MapReduce algorithms](javascript:void(0))

#### [Self-organization](javascript:void(0))

#### [Shared memory algorithms](javascript:void(0))

#### [Vector / streaming algorithms](javascript:void(0))

#### [Massively parallel algorithms](javascript:void(0))

### [Distributed algorithms](javascript:void(0))

#### [MapReduce algorithms](javascript:void(0))

#### [Self-organization](javascript:void(0))

### [Algorithm design techniques](javascript:void(0))

#### [Backtracking](javascript:void(0))

#### [Branch-and-bound](javascript:void(0))

#### [Divide and conquer](javascript:void(0))

#### [Dynamic programming](javascript:void(0))

#### [Preconditioning](javascript:void(0))

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## [Randomness, geometry and discrete structures](javascript:void(0))

### [Pseudorandomness and derandomization](javascript:void(0))

### [Computational geometry](javascript:void(0))

### [Generating random combinatorial structures](javascript:void(0))

### [Random walks and Markov chains](javascript:void(0))

### [Expander graphs and randomness extractors](javascript:void(0))

### [Error-correcting codes](javascript:void(0))

### [Random projections and metric embeddings](javascript:void(0))

### [Random network models](javascript:void(0))

### [Random search heuristics](javascript:void(0))

## [Theory and algorithms for application domains](javascript:void(0))

### [Machine learning theory](javascript:void(0))

#### [Sample complexity and generalization bounds](javascript:void(0))

#### [Boolean function learning](javascript:void(0))

#### [Unsupervised learning and clustering](javascript:void(0))

#### [Kernel methods](javascript:void(0))

##### [Support vector machines](javascript:void(0))

##### [Gaussian processes](javascript:void(0))

#### [Boosting](javascript:void(0))

#### [Bayesian analysis](javascript:void(0))

#### [Inductive inference](javascript:void(0))

#### [Online learning theory](javascript:void(0))

#### [Multi-agent learning](javascript:void(0))

#### [Models of learning](javascript:void(0))

#### [Query learning](javascript:void(0))

#### [Structured prediction](javascript:void(0))

#### [Reinforcement learning](javascript:void(0))

##### [Sequential decision making](javascript:void(0))

##### [Inverse reinforcement learning](javascript:void(0))

##### [Apprenticeship learning](javascript:void(0))

##### [Multi-agent reinforcement learning](javascript:void(0))

##### [Adversarial learning](javascript:void(0))

#### [Active learning](javascript:void(0))

#### [Semi-supervised learning](javascript:void(0))

#### [Markov decision processes](javascript:void(0))

#### [Regret bounds](javascript:void(0))

### [Algorithmic game theory and mechanism design](javascript:void(0))

#### [Social networks](javascript:void(0))

#### [Algorithmic game theory](javascript:void(0))

#### [Algorithmic mechanism design](javascript:void(0))

#### [Solution concepts in game theory](javascript:void(0))

#### [Exact and approximate computation of equilibria](javascript:void(0))

#### [Quality of equilibria](javascript:void(0))

#### [Convergence and learning in games](javascript:void(0))

#### [Market equilibria](javascript:void(0))

#### [Computational pricing and auctions](javascript:void(0))

#### [Representations of games and their complexity](javascript:void(0))

#### [Network games](javascript:void(0))

#### [Network formation](javascript:void(0))

#### [Computational advertising theory](javascript:void(0))

### [Database theory](javascript:void(0))

#### [Data exchange](javascript:void(0))

#### [Data provenance](javascript:void(0))

#### [Data modeling](javascript:void(0))

#### [Database query languages (principles)](javascript:void(0))

#### [Database constraints theory](javascript:void(0))

#### [Database interoperability](javascript:void(0))

#### [Data structures and algorithms for data management](javascript:void(0))

#### [Database query processing and optimization (theory)](javascript:void(0))

#### [Data integration](javascript:void(0))

#### [Logic and databases](javascript:void(0))

#### [Theory of database privacy and security](javascript:void(0))

#### [Incomplete, inconsistent, and uncertain databases](javascript:void(0))

### [Theory of randomized search heuristics](javascript:void(0))

## [Semantics and reasoning](javascript:void(0))

### [Program constructs](javascript:void(0))

#### [Control primitives](javascript:void(0))

#### [Functional constructs](javascript:void(0))

#### [Object oriented constructs](javascript:void(0))

#### [Program schemes](javascript:void(0))

#### [Type structures](javascript:void(0))

### [Program semantics](javascript:void(0))

#### [Algebraic semantics](javascript:void(0))

#### [Denotational semantics](javascript:void(0))

#### [Operational semantics](javascript:void(0))

#### [Axiomatic semantics](javascript:void(0))

#### [Action semantics](javascript:void(0))

#### [Categorical semantics](javascript:void(0))

### [Program reasoning](javascript:void(0))

#### [Invariants](javascript:void(0))

#### [Program specifications](javascript:void(0))

#### [Pre- and post-conditions](javascript:void(0))

#### [Program verification](javascript:void(0))

#### [Program analysis](javascript:void(0))

#### [Assertions](javascript:void(0))

#### [Parsing](javascript:void(0))

#### [Abstraction](javascript:void(0))

# [Mathematics of computing](javascript:void(0))

## [Discrete mathematics](javascript:void(0))

### [Combinatorics](javascript:void(0))

#### [Combinatoric problems](javascript:void(0))

#### [Permutations and combinations](javascript:void(0))

#### [Combinatorial algorithms](javascript:void(0))

#### [Generating functions](javascript:void(0))

#### [Combinatorial optimization](javascript:void(0))

#### [Combinatorics on words](javascript:void(0))

#### [Enumeration](javascript:void(0))

### [Graph theory](javascript:void(0))

#### [Trees](javascript:void(0))

#### [Hypergraphs](javascript:void(0))

#### [Random graphs](javascript:void(0))

#### [Graph coloring](javascript:void(0))

#### [Paths and connectivity problems](javascript:void(0))

#### [Graph enumeration](javascript:void(0))

#### [Matchings and factors](javascript:void(0))

#### [Graphs and surfaces](javascript:void(0))

#### [Network flows](javascript:void(0))

#### [Spectra of graphs](javascript:void(0))

#### [Extremal graph theory](javascript:void(0))

#### [Matroids and greedoids](javascript:void(0))

#### [Graph algorithms](javascript:void(0))

#### [Approximation algorithms](javascript:void(0))

## [Probability and statistics](javascript:void(0))

### [Probabilistic representations](javascript:void(0))

#### [Bayesian networks](javascript:void(0))

#### [Markov networks](javascript:void(0))

#### [Factor graphs](javascript:void(0))

#### [Decision diagrams](javascript:void(0))

#### [Equational models](javascript:void(0))

#### [Causal networks](javascript:void(0))

#### [Stochastic differential equations](javascript:void(0))

#### [Nonparametric representations](javascript:void(0))

##### [Kernel density estimators](javascript:void(0))

##### [Spline models](javascript:void(0))

##### [Bayesian nonparametric models](javascript:void(0))

### [Probabilistic inference problems](javascript:void(0))

#### [Maximum likelihood estimation](javascript:void(0))

#### [Bayesian computation](javascript:void(0))

#### [Computing most probable explanation](javascript:void(0))

#### [Hypothesis testing and confidence interval computation](javascript:void(0))

#### [Density estimation](javascript:void(0))

##### [Quantile regression](javascript:void(0))

#### [Max marginal computation](javascript:void(0))

### [Probabilistic reasoning algorithms](javascript:void(0))

#### [Variable elimination](javascript:void(0))

#### [Loopy belief propagation](javascript:void(0))

#### [Variational methods](javascript:void(0))

#### [Expectation maximization](javascript:void(0))

#### [Markov-chain Monte Carlo methods](javascript:void(0))

##### [Gibbs sampling](javascript:void(0))

##### [Metropolis-Hastings algorithm](javascript:void(0))

##### [Simulated annealing](javascript:void(0))

##### [Markov-chain Monte Carlo convergence measures](javascript:void(0))

#### [Sequential Monte Carlo methods](javascript:void(0))

#### [Kalman filters and hidden Markov models](javascript:void(0))

#### [Resampling methods](javascript:void(0))

##### [Bootstrapping](javascript:void(0))

##### [Jackknifing](javascript:void(0))

#### [Random number generation](javascript:void(0))

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#### [Regression analysis](javascript:void(0))

##### [Robust regression](javascript:void(0))

#### [Time series analysis](javascript:void(0))

#### [Survival analysis](javascript:void(0))

#### [Renewal theory](javascript:void(0))

#### [Dimensionality reduction](javascript:void(0))

#### [Cluster analysis](javascript:void(0))

#### [Statistical graphics](javascript:void(0))

#### [Exploratory data analysis](javascript:void(0))

### [Stochastic processes](javascript:void(0))

#### [Markov processes](javascript:void(0))

### [Nonparametric statistics](javascript:void(0))

### [Distribution functions](javascript:void(0))

### [Multivariate statistics](javascript:void(0))

## [Mathematical software](javascript:void(0))

### [Solvers](javascript:void(0))

### [Statistical software](javascript:void(0))

### [Mathematical software performance](javascript:void(0))

## [Information theory](javascript:void(0))

### [Coding theory](javascript:void(0))

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#### [Computation of transforms](javascript:void(0))

#### [Computations in finite fields](javascript:void(0))

#### [Computations on matrices](javascript:void(0))

#### [Computations on polynomials](javascript:void(0))

##### [Gröbner bases and other special bases](javascript:void(0))

#### [Number-theoretic computations](javascript:void(0))

#### [Interpolation](javascript:void(0))

#### [Numerical differentiation](javascript:void(0))

#### [Interval arithmetic](javascript:void(0))

#### [Arbitrary-precision arithmetic](javascript:void(0))

#### [Automatic differentiation](javascript:void(0))

#### [Mesh generation](javascript:void(0))

#### [Discretization](javascript:void(0))

### [Mathematical optimization](javascript:void(0))

#### [Discrete optimization](javascript:void(0))

##### [Network optimization](javascript:void(0))

##### [Optimization with randomized search heuristics](javascript:void(0))

[Simulated annealing](javascript:void(0))

[Evolutionary algorithms](javascript:void(0))

[Tabu search](javascript:void(0))

[Randomized local search](javascript:void(0))

#### [Continuous optimization](javascript:void(0))

##### [Linear programming](javascript:void(0))

##### [Semidefinite programming](javascript:void(0))

##### [Convex optimization](javascript:void(0))

##### [Quasiconvex programming and unimodality](javascript:void(0))

##### [Stochastic control and optimization](javascript:void(0))

##### [Quadratic programming](javascript:void(0))

##### [Nonconvex optimization](javascript:void(0))

##### [Bio-inspired optimization](javascript:void(0))

#### [Mixed discrete-continuous optimization](javascript:void(0))

##### [Submodular optimization and polymatroids](javascript:void(0))

##### [Integer programming](javascript:void(0))

##### [Bio-inspired optimization](javascript:void(0))

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##### [Genetic programming](javascript:void(0))

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#### [Partial differential equations](javascript:void(0))

#### [Differential algebraic equations](javascript:void(0))

#### [Differential variational inequalities](javascript:void(0))

### [Calculus](javascript:void(0))

#### [Lambda calculus](javascript:void(0))

#### [Differential calculus](javascript:void(0))

#### [Integral calculus](javascript:void(0))

### [Functional analysis](javascript:void(0))

#### [Approximation](javascript:void(0))

### [Integral equations](javascript:void(0))

### [Nonlinear equations](javascript:void(0))

### [Quadrature](javascript:void(0))

## [Continuous mathematics](javascript:void(0))

### [Calculus](javascript:void(0))

#### [Lambda calculus](javascript:void(0))

#### [Differential calculus](javascript:void(0))

#### [Integral calculus](javascript:void(0))

### [Topology](javascript:void(0))

#### [Point-set topology](javascript:void(0))

#### [Algebraic topology](javascript:void(0))

#### [Geometric topology](javascript:void(0))

### [Continuous functions](javascript:void(0))

# [Information systems](javascript:void(0))

## [Data management systems](javascript:void(0))

### [Database design and models](javascript:void(0))

#### [Relational database model](javascript:void(0))

#### [Entity relationship models](javascript:void(0))

#### [Graph-based database models](javascript:void(0))

##### [Hierarchical data models](javascript:void(0))

##### [Network data models](javascript:void(0))

#### [Physical data models](javascript:void(0))

#### [Data model extensions](javascript:void(0))

##### [Semi-structured data](javascript:void(0))

##### [Data streams](javascript:void(0))

##### [Data provenance](javascript:void(0))

##### [Incomplete data](javascript:void(0))

##### [Temporal data](javascript:void(0))

##### [Uncertainty](javascript:void(0))

##### [Inconsistent data](javascript:void(0))

### [Data structures](javascript:void(0))

#### [Data access methods](javascript:void(0))

##### [Multidimensional range search](javascript:void(0))

##### [Data scans](javascript:void(0))

##### [Point lookups](javascript:void(0))

##### [Unidimensional range search](javascript:void(0))

##### [Proximity search](javascript:void(0))

#### [Data layout](javascript:void(0))

##### [Data compression](javascript:void(0))

##### [Data encryption](javascript:void(0))

##### [Record and block layout](javascript:void(0))

### [Database management system engines](javascript:void(0))

#### [DBMS engine architectures](javascript:void(0))

#### [Database query processing](javascript:void(0))

##### [Query optimization](javascript:void(0))

##### [Query operators](javascript:void(0))

##### [Query planning](javascript:void(0))

##### [Join algorithms](javascript:void(0))

#### [Database transaction processing](javascript:void(0))

##### [Data locking](javascript:void(0))

##### [Transaction logging](javascript:void(0))

##### [Database recovery](javascript:void(0))

#### [Record and buffer management](javascript:void(0))

#### [Parallel and distributed DBMSs](javascript:void(0))

##### [Key-value stores](javascript:void(0))

##### [MapReduce-based systems](javascript:void(0))

##### [Relational parallel and distributed DBMSs](javascript:void(0))

#### [Triggers and rules](javascript:void(0))

#### [Database views](javascript:void(0))

#### [Integrity checking](javascript:void(0))

#### [Distributed database transactions](javascript:void(0))

##### [Distributed data locking](javascript:void(0))

##### [Deadlocks](javascript:void(0))

##### [Distributed database recovery](javascript:void(0))

#### [Main memory engines](javascript:void(0))

#### [Online analytical processing engines](javascript:void(0))

#### [Stream management](javascript:void(0))

### [Query languages](javascript:void(0))

#### [Relational database query languages](javascript:void(0))

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#### [XML query languages](javascript:void(0))

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##### [XQuery](javascript:void(0))

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#### [Database performance evaluation](javascript:void(0))

#### [Autonomous database administration](javascript:void(0))

#### [Data dictionaries](javascript:void(0))

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#### [Deduplication](javascript:void(0))

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#### [Data cleaning](javascript:void(0))

#### [Wrappers (data mining)](javascript:void(0))

#### [Mediators and data integration](javascript:void(0))

#### [Entity resolution](javascript:void(0))

#### [Data warehouses](javascript:void(0))

#### [Federated databases](javascript:void(0))

### [Middleware for databases](javascript:void(0))

#### [Database web servers](javascript:void(0))

#### [Application servers](javascript:void(0))

#### [Object-relational mapping facilities](javascript:void(0))

#### [Data federation tools](javascript:void(0))

#### [Data replication tools](javascript:void(0))

#### [Distributed transaction monitors](javascript:void(0))

#### [Message queues](javascript:void(0))

#### [Service buses](javascript:void(0))

#### [Enterprise application integration tools](javascript:void(0))

#### [Middleware business process managers](javascript:void(0))

## [Information storage systems](javascript:void(0))

### [Information storage technologies](javascript:void(0))

#### [Magnetic disks](javascript:void(0))

#### [Magnetic tapes](javascript:void(0))

#### [Optical / magneto-optical disks](javascript:void(0))

#### [Storage class memory](javascript:void(0))

##### [Flash memory](javascript:void(0))

##### [Phase change memory](javascript:void(0))

#### [Disk arrays](javascript:void(0))

#### [Tape libraries](javascript:void(0))

### [Record storage systems](javascript:void(0))

#### [Record storage alternatives](javascript:void(0))

##### [Heap (data structure)](javascript:void(0))

##### [Hashed file organization](javascript:void(0))

##### [Indexed file organization](javascript:void(0))

##### [Linked lists](javascript:void(0))

#### [Directory structures](javascript:void(0))

##### [B-trees](javascript:void(0))

##### [Vnodes](javascript:void(0))

##### [Inodes](javascript:void(0))

##### [Extent-based file structures](javascript:void(0))

#### [Block / page strategies](javascript:void(0))

##### [Slotted pages](javascript:void(0))

##### [Intrapage space management](javascript:void(0))

##### [Interpage free-space management](javascript:void(0))

#### [Record layout alternatives](javascript:void(0))

##### [Fixed length attributes](javascript:void(0))

##### [Variable length attributes](javascript:void(0))

##### [Null values in records](javascript:void(0))

#### [Relational storage](javascript:void(0))

##### [Horizontal partitioning](javascript:void(0))

##### [Vertical partitioning](javascript:void(0))

##### [Column based storage](javascript:void(0))

##### [Hybrid storage layouts](javascript:void(0))

##### [Compression strategies](javascript:void(0))

### [Storage replication](javascript:void(0))

#### [Mirroring](javascript:void(0))

#### [RAID](javascript:void(0))

#### [Point-in-time copies](javascript:void(0))

#### [Remote replication](javascript:void(0))

#### [Storage recovery strategies](javascript:void(0))

### [Storage architectures](javascript:void(0))

#### [Cloud based storage](javascript:void(0))

#### [Storage network architectures](javascript:void(0))

##### [Storage area networks](javascript:void(0))

##### [Direct attached storage](javascript:void(0))

##### [Network attached storage](javascript:void(0))

#### [Distributed storage](javascript:void(0))

### [Storage management](javascript:void(0))

#### [Hierarchical storage management](javascript:void(0))

#### [Storage virtualization](javascript:void(0))

#### [Information lifecycle management](javascript:void(0))

#### [Version management](javascript:void(0))

#### [Storage power management](javascript:void(0))

#### [Thin provisioning](javascript:void(0))

## [Information systems applications](javascript:void(0))

### [Enterprise information systems](javascript:void(0))

#### [Intranets](javascript:void(0))

#### [Extranets](javascript:void(0))

#### [Enterprise resource planning](javascript:void(0))

#### [Enterprise applications](javascript:void(0))

#### [Data centers](javascript:void(0))

### [Collaborative and social computing systems and tools](javascript:void(0))

#### [Blogs](javascript:void(0))

#### [Wikis](javascript:void(0))

#### [Reputation systems](javascript:void(0))

#### [Open source software](javascript:void(0))

#### [Social networking sites](javascript:void(0))

#### [Social tagging systems](javascript:void(0))

#### [Synchronous editors](javascript:void(0))

#### [Asynchronous editors](javascript:void(0))

### [Spatial-temporal systems](javascript:void(0))

#### [Location based services](javascript:void(0))

#### [Geographic information systems](javascript:void(0))

#### [Sensor networks](javascript:void(0))

#### [Data streaming](javascript:void(0))

#### [Global positioning systems](javascript:void(0))

### [Decision support systems](javascript:void(0))

#### [Data warehouses](javascript:void(0))

#### [Expert systems](javascript:void(0))

#### [Data analytics](javascript:void(0))

#### [Online analytical processing](javascript:void(0))

### [Mobile information processing systems](javascript:void(0))

### [Process control systems](javascript:void(0))

### [Multimedia information systems](javascript:void(0))

#### [Multimedia databases](javascript:void(0))

#### [Multimedia streaming](javascript:void(0))

#### [Multimedia content creation](javascript:void(0))

#### [Massively multiplayer online games](javascript:void(0))

### [Data mining](javascript:void(0))

#### [Data cleaning](javascript:void(0))

#### [Collaborative filtering](javascript:void(0))

#### [Association rules](javascript:void(0))

#### [Clustering](javascript:void(0))

#### [Nearest-neighbor search](javascript:void(0))

#### [Data stream mining](javascript:void(0))

### [Digital libraries and archives](javascript:void(0))

### [Computational advertising](javascript:void(0))

### [Computing platforms](javascript:void(0))

## [World Wide Web](javascript:void(0))

### [Web searching and information discovery](javascript:void(0))

#### [Web search engines](javascript:void(0))

##### [Web crawling](javascript:void(0))

##### [Web indexing](javascript:void(0))

##### [Page and site ranking](javascript:void(0))

##### [Spam detection](javascript:void(0))

#### [Content ranking](javascript:void(0))

#### [Collaborative filtering](javascript:void(0))

#### [Social recommendation](javascript:void(0))

#### [Personalization](javascript:void(0))

#### [Social tagging](javascript:void(0))

### [Online advertising](javascript:void(0))

#### [Sponsored search advertising](javascript:void(0))

#### [Content match advertising](javascript:void(0))

#### [Display advertising](javascript:void(0))

#### [Social advertising](javascript:void(0))

### [Web mining](javascript:void(0))

#### [Site wrapping](javascript:void(0))

#### [Data extraction and integration](javascript:void(0))

##### [Deep web](javascript:void(0))

##### [Surfacing](javascript:void(0))

##### [Search results deduplication](javascript:void(0))

#### [Web log analysis](javascript:void(0))

#### [Traffic analysis](javascript:void(0))

### [Web applications](javascript:void(0))

#### [Internet communications tools](javascript:void(0))

##### [Email](javascript:void(0))

##### [Blogs](javascript:void(0))

##### [Texting](javascript:void(0))

##### [Chat](javascript:void(0))

##### [Web conferencing](javascript:void(0))

#### [Social networks](javascript:void(0))

#### [Crowdsourcing](javascript:void(0))

##### [Answer ranking](javascript:void(0))

##### [Trust](javascript:void(0))

##### [Incentive schemes](javascript:void(0))

##### [Reputation systems](javascript:void(0))

#### [Electronic commerce](javascript:void(0))

##### [Digital cash](javascript:void(0))

##### [E-commerce infrastructure](javascript:void(0))

##### [Electronic data interchange](javascript:void(0))

##### [Electronic funds transfer](javascript:void(0))

##### [Online shopping](javascript:void(0))

##### [Online banking](javascript:void(0))

##### [Secure online transactions](javascript:void(0))

##### [Online auctions](javascript:void(0))

### [Web interfaces](javascript:void(0))

#### [Wikis](javascript:void(0))

#### [Browsers](javascript:void(0))

#### [Mashups](javascript:void(0))

### [Web services](javascript:void(0))

#### [Simple Object Access Protocol (SOAP)](javascript:void(0))

#### [RESTful web services](javascript:void(0))

#### [Web Services Description Language (WSDL)](javascript:void(0))

#### [Universal Description Discovery and Integration (UDDI)](javascript:void(0))

#### [Service discovery and interfaces](javascript:void(0))

### [Web data description languages](javascript:void(0))

#### [Semantic web description languages](javascript:void(0))

##### [Resource Description Framework (RDF)](javascript:void(0))

##### [Web Ontology Language (OWL)](javascript:void(0))

#### [Markup languages](javascript:void(0))

##### [Extensible Markup Language (XML)](javascript:void(0))

##### [Hypertext languages](javascript:void(0))

## [Information retrieval](javascript:void(0))

### [Document representation](javascript:void(0))

#### [Document structure](javascript:void(0))

#### [Document topic models](javascript:void(0))

#### [Content analysis and feature selection](javascript:void(0))

#### [Data encoding and canonicalization](javascript:void(0))

#### [Document collection models](javascript:void(0))

#### [Ontologies](javascript:void(0))

#### [Dictionaries](javascript:void(0))

#### [Thesauri](javascript:void(0))

### [Information retrieval query processing](javascript:void(0))

#### [Query representation](javascript:void(0))

#### [Query intent](javascript:void(0))

#### [Query log analysis](javascript:void(0))

#### [Query suggestion](javascript:void(0))

#### [Query reformulation](javascript:void(0))

### [Users and interactive retrieval](javascript:void(0))

#### [Personalization](javascript:void(0))

#### [Task models](javascript:void(0))

#### [Search interfaces](javascript:void(0))

#### [Collaborative search](javascript:void(0))

### [Retrieval models and ranking](javascript:void(0))

#### [Rank aggregation](javascript:void(0))

#### [Probabilistic retrieval models](javascript:void(0))

#### [Language models](javascript:void(0))

#### [Similarity measures](javascript:void(0))

#### [Learning to rank](javascript:void(0))

#### [Combination, fusion and federated search](javascript:void(0))

#### [Information retrieval diversity](javascript:void(0))

#### [Top-k retrieval in databases](javascript:void(0))

#### [Novelty in information retrieval](javascript:void(0))

### [Retrieval tasks and goals](javascript:void(0))

#### [Question answering](javascript:void(0))

#### [Document filtering](javascript:void(0))

#### [Recommender systems](javascript:void(0))

#### [Information extraction](javascript:void(0))

#### [Sentiment analysis](javascript:void(0))

#### [Expert search](javascript:void(0))

#### [Near-duplicate and plagiarism detection](javascript:void(0))

#### [Clustering and classification](javascript:void(0))

#### [Summarization](javascript:void(0))

#### [Business intelligence](javascript:void(0))

### [Evaluation of retrieval results](javascript:void(0))

#### [Test collections](javascript:void(0))

#### [Relevance assessment](javascript:void(0))

#### [Retrieval effectiveness](javascript:void(0))

#### [Retrieval efficiency](javascript:void(0))

#### [Presentation of retrieval results](javascript:void(0))

### [Search engine architectures and scalability](javascript:void(0))

#### [Search engine indexing](javascript:void(0))

#### [Search index compression](javascript:void(0))

#### [Distributed retrieval](javascript:void(0))

#### [Peer-to-peer retrieval](javascript:void(0))

#### [Retrieval on mobile devices](javascript:void(0))

#### [Adversarial retrieval](javascript:void(0))

#### [Link and co-citation analysis](javascript:void(0))

#### [Searching with auxiliary databases](javascript:void(0))

### [Specialized information retrieval](javascript:void(0))

#### [Structure and multilingual text search](javascript:void(0))

##### [Structured text search](javascript:void(0))

##### [Mathematics retrieval](javascript:void(0))

##### [Chemical and biochemical retrieval](javascript:void(0))

##### [Multilingual and cross-lingual retrieval](javascript:void(0))

#### [Multimedia and multimodal retrieval](javascript:void(0))

##### [Image search](javascript:void(0))

##### [Video search](javascript:void(0))

##### [Speech / audio search](javascript:void(0))

##### [Music retrieval](javascript:void(0))

#### [Environment-specific retrieval](javascript:void(0))

##### [Enterprise search](javascript:void(0))

##### [Desktop search](javascript:void(0))

##### [Web and social media search](javascript:void(0))

# [Security and privacy](javascript:void(0))

## [Cryptography](javascript:void(0))

### [Key management](javascript:void(0))

### [Public key (asymmetric) techniques](javascript:void(0))

#### [Digital signatures](javascript:void(0))

#### [Public key encryption](javascript:void(0))

### [Symmetric cryptography and hash functions](javascript:void(0))

#### [Block and stream ciphers](javascript:void(0))

#### [Hash functions and message authentication codes](javascript:void(0))

### [Cryptanalysis and other attacks](javascript:void(0))

### [Information-theoretic techniques](javascript:void(0))

### [Mathematical foundations of cryptography](javascript:void(0))

## [Formal methods and theory of security](javascript:void(0))

### [Trust frameworks](javascript:void(0))

### [Security requirements](javascript:void(0))

### [Formal security models](javascript:void(0))

### [Logic and verification](javascript:void(0))

## [Security services](javascript:void(0))

### [Authentication](javascript:void(0))

#### [Biometrics](javascript:void(0))

#### [Graphical / visual passwords](javascript:void(0))

#### [Multi-factor authentication](javascript:void(0))

### [Access control](javascript:void(0))

### [Pseudonymity, anonymity and untraceability](javascript:void(0))

### [Privacy-preserving protocols](javascript:void(0))

### [Digital rights management](javascript:void(0))

### [Authorization](javascript:void(0))

## [Intrusion/anomaly detection and malware mitigation](javascript:void(0))

### [Malware and its mitigation](javascript:void(0))

### [Intrusion detection systems](javascript:void(0))

#### [Artificial immune systems](javascript:void(0))

### [Social engineering attacks](javascript:void(0))

#### [Spoofing attacks](javascript:void(0))

#### [Phishing](javascript:void(0))

## [Security in hardware](javascript:void(0))

### [Tamper-proof and tamper-resistant designs](javascript:void(0))

### [Embedded systems security](javascript:void(0))

### [Hardware security implementation](javascript:void(0))

#### [Hardware-based security protocols](javascript:void(0))

### [Hardware attacks and countermeasures](javascript:void(0))

#### [Malicious design modifications](javascript:void(0))

#### [Side-channel analysis and countermeasures](javascript:void(0))

### [Hardware reverse engineering](javascript:void(0))

## [Systems security](javascript:void(0))

### [Operating systems security](javascript:void(0))

#### [Mobile platform security](javascript:void(0))

#### [Trusted computing](javascript:void(0))

#### [Virtualization and security](javascript:void(0))

### [Browser security](javascript:void(0))

### [Distributed systems security](javascript:void(0))

### [Information flow control](javascript:void(0))

### [Denial-of-service attacks](javascript:void(0))

### [Firewalls](javascript:void(0))

### [Vulnerability management](javascript:void(0))

#### [Penetration testing](javascript:void(0))

#### [Vulnerability scanners](javascript:void(0))

### [File system security](javascript:void(0))

## [Network security](javascript:void(0))

### [Security protocols](javascript:void(0))

### [Web protocol security](javascript:void(0))

### [Mobile and wireless security](javascript:void(0))

### [Denial-of-service attacks](javascript:void(0))

### [Firewalls](javascript:void(0))

## [Database and storage security](javascript:void(0))

### [Data anonymization and sanitization](javascript:void(0))

### [Management and querying of encrypted data](javascript:void(0))

### [Information accountability and usage control](javascript:void(0))

### [Database activity monitoring](javascript:void(0))

## [Software and application security](javascript:void(0))

### [Software security engineering](javascript:void(0))

### [Web application security](javascript:void(0))

### [Social network security and privacy](javascript:void(0))

### [Domain-specific security and privacy architectures](javascript:void(0))

### [Software reverse engineering](javascript:void(0))

## [Human and societal aspects of security and privacy](javascript:void(0))

### [Economics of security and privacy](javascript:void(0))

### [Social aspects of security and privacy](javascript:void(0))

### [Privacy protections](javascript:void(0))

### [Usability in security and privacy](javascript:void(0))

# [Human-centered computing](javascript:void(0))

## [Human computer interaction (HCI)](javascript:void(0))

### [HCI design and evaluation methods](javascript:void(0))

#### [User models](javascript:void(0))

#### [User studies](javascript:void(0))

#### [Usability testing](javascript:void(0))

#### [Heuristic evaluations](javascript:void(0))

#### [Walkthrough evaluations](javascript:void(0))

#### [Laboratory experiments](javascript:void(0))

#### [Field studies](javascript:void(0))

### [Interaction paradigms](javascript:void(0))

#### [Hypertext / hypermedia](javascript:void(0))

#### [Mixed / augmented reality](javascript:void(0))

#### [Command line interfaces](javascript:void(0))

#### [Graphical user interfaces](javascript:void(0))

#### [Virtual reality](javascript:void(0))

#### [Web-based interaction](javascript:void(0))

#### [Natural language interfaces](javascript:void(0))

#### [Collaborative interaction](javascript:void(0))

### [Interaction devices](javascript:void(0))

#### [Graphics input devices](javascript:void(0))

#### [Displays and imagers](javascript:void(0))

#### [Sound-based input / output](javascript:void(0))

#### [Keyboards](javascript:void(0))

#### [Pointing devices](javascript:void(0))

#### [Touch screens](javascript:void(0))

#### [Haptic devices](javascript:void(0))

### [HCI theory, concepts and models](javascript:void(0))

### [Interaction techniques](javascript:void(0))

#### [Auditory feedback](javascript:void(0))

#### [Text input](javascript:void(0))

#### [Pointing](javascript:void(0))

#### [Gestural input](javascript:void(0))

### [Interactive systems and tools](javascript:void(0))

#### [User interface management systems](javascript:void(0))

#### [User interface programming](javascript:void(0))

#### [User interface toolkits](javascript:void(0))

### [Empirical studies in HCI](javascript:void(0))

## [Interaction design](javascript:void(0))

### [Interaction design process and methods](javascript:void(0))

#### [User interface design](javascript:void(0))

#### [User centered design](javascript:void(0))

#### [Activity centered design](javascript:void(0))

#### [Scenario-based design](javascript:void(0))

#### [Participatory design](javascript:void(0))

#### [Contextual design](javascript:void(0))

#### [Interface design prototyping](javascript:void(0))

### [Interaction design theory, concepts and paradigms](javascript:void(0))

### [Empirical studies in interaction design](javascript:void(0))

### [Systems and tools for interaction design](javascript:void(0))

#### [Wireframes](javascript:void(0))

## [Collaborative and social computing](javascript:void(0))

### [Collaborative and social computing theory, concepts and paradigms](javascript:void(0))

#### [Social content sharing](javascript:void(0))

#### [Collaborative content creation](javascript:void(0))

#### [Collaborative filtering](javascript:void(0))

#### [Social recommendation](javascript:void(0))

#### [Social networks](javascript:void(0))

#### [Social tagging](javascript:void(0))

#### [Computer supported cooperative work](javascript:void(0))

#### [Social engineering (social sciences)](javascript:void(0))

#### [Social navigation](javascript:void(0))

#### [Social media](javascript:void(0))

### [Collaborative and social computing design and evaluation methods](javascript:void(0))

#### [Social network analysis](javascript:void(0))

#### [Ethnographic studies](javascript:void(0))

### [Collaborative and social computing systems and tools](javascript:void(0))

#### [Blogs](javascript:void(0))

#### [Wikis](javascript:void(0))

#### [Reputation systems](javascript:void(0))

#### [Open source software](javascript:void(0))

#### [Social networking sites](javascript:void(0))

#### [Social tagging systems](javascript:void(0))

#### [Synchronous editors](javascript:void(0))

#### [Asynchronous editors](javascript:void(0))

### [Empirical studies in collaborative and social computing](javascript:void(0))

### [Collaborative and social computing devices](javascript:void(0))

## [Ubiquitous and mobile computing](javascript:void(0))

### [Ubiquitous and mobile computing theory, concepts and paradigms](javascript:void(0))

#### [Ubiquitous computing](javascript:void(0))

#### [Mobile computing](javascript:void(0))

#### [Ambient intelligence](javascript:void(0))

### [Ubiquitous and mobile computing systems and tools](javascript:void(0))

### [Ubiquitous and mobile devices](javascript:void(0))

#### [Smartphones](javascript:void(0))

#### [Interactive whiteboards](javascript:void(0))

#### [Mobile phones](javascript:void(0))

#### [Mobile devices](javascript:void(0))

#### [Portable media players](javascript:void(0))

#### [Personal digital assistants](javascript:void(0))

#### [Handheld game consoles](javascript:void(0))

#### [E-book readers](javascript:void(0))

#### [Tablet computers](javascript:void(0))

### [Ubiquitous and mobile computing design and evaluation methods](javascript:void(0))

### [Empirical studies in ubiquitous and mobile computing](javascript:void(0))

## [Visualization](javascript:void(0))

### [Visualization techniques](javascript:void(0))

#### [Treemaps](javascript:void(0))

#### [Hyperbolic trees](javascript:void(0))

#### [Heat maps](javascript:void(0))

#### [Graph drawings](javascript:void(0))

#### [Dendrograms](javascript:void(0))

#### [Cladograms](javascript:void(0))

### [Visualization application domains](javascript:void(0))

#### [Scientific visualization](javascript:void(0))

#### [Visual analytics](javascript:void(0))

#### [Geographic visualization](javascript:void(0))

#### [Information visualization](javascript:void(0))

### [Visualization systems and tools](javascript:void(0))

#### [Visualization toolkits](javascript:void(0))

### [Visualization theory, concepts and paradigms](javascript:void(0))

### [Empirical studies in visualization](javascript:void(0))

### [Visualization design and evaluation methods](javascript:void(0))

## [Accessibility](javascript:void(0))

### [Accessibility theory, concepts and paradigms](javascript:void(0))

### [Empirical studies in accessibility](javascript:void(0))

### [Accessibility design and evaluation methods](javascript:void(0))

### [Accessibility technologies](javascript:void(0))

### [Accessibility systems and tools](javascript:void(0))

# [Computing methodologies](javascript:void(0))

## [Symbolic and algebraic manipulation](javascript:void(0))

### [Symbolic and algebraic algorithms](javascript:void(0))

#### [Combinatorial algorithms](javascript:void(0))

#### [Algebraic algorithms](javascript:void(0))

#### [Nonalgebraic algorithms](javascript:void(0))

#### [Symbolic calculus algorithms](javascript:void(0))

#### [Exact arithmetic algorithms](javascript:void(0))

#### [Hybrid symbolic-numeric methods](javascript:void(0))

#### [Discrete calculus algorithms](javascript:void(0))

#### [Number theory algorithms](javascript:void(0))

#### [Equation and inequality solving algorithms](javascript:void(0))

#### [Linear algebra algorithms](javascript:void(0))

#### [Theorem proving algorithms](javascript:void(0))

#### [Boolean algebra algorithms](javascript:void(0))

#### [Optimization algorithms](javascript:void(0))

### [Computer algebra systems](javascript:void(0))

#### [Special-purpose algebraic systems](javascript:void(0))

### [Representation of mathematical objects](javascript:void(0))

#### [Representation of exact numbers](javascript:void(0))

#### [Representation of mathematical functions](javascript:void(0))

#### [Representation of Boolean functions](javascript:void(0))

#### [Representation of polynomials](javascript:void(0))

## [Parallel computing methodologies](javascript:void(0))

### [Parallel algorithms](javascript:void(0))

#### [MapReduce algorithms](javascript:void(0))

#### [Self-organization](javascript:void(0))

#### [Shared memory algorithms](javascript:void(0))

#### [Vector / streaming algorithms](javascript:void(0))

#### [Massively parallel algorithms](javascript:void(0))

### [Parallel programming languages](javascript:void(0))

## [Artificial intelligence](javascript:void(0))

### [Natural language processing](javascript:void(0))

#### [Information extraction](javascript:void(0))

#### [Machine translation](javascript:void(0))

#### [Discourse, dialogue and pragmatics](javascript:void(0))

#### [Natural language generation](javascript:void(0))

#### [Speech recognition](javascript:void(0))

#### [Lexical semantics](javascript:void(0))

#### [Phonology / morphology](javascript:void(0))

#### [Language resources](javascript:void(0))

### [Knowledge representation and reasoning](javascript:void(0))

#### [Description logics](javascript:void(0))

#### [Semantic networks](javascript:void(0))

#### [Nonmonotonic, default reasoning and belief revision](javascript:void(0))

#### [Probabilistic reasoning](javascript:void(0))

#### [Vagueness and fuzzy logic](javascript:void(0))

#### [Causal reasoning and diagnostics](javascript:void(0))

#### [Temporal reasoning](javascript:void(0))

#### [Cognitive robotics](javascript:void(0))

#### [Ontology engineering](javascript:void(0))

#### [Logic programming and answer set programming](javascript:void(0))

#### [Spatial and physical reasoning](javascript:void(0))

#### [Reasoning about belief and knowledge](javascript:void(0))

### [Planning and scheduling](javascript:void(0))

#### [Planning for deterministic actions](javascript:void(0))

#### [Planning under uncertainty](javascript:void(0))

#### [Multi-agent planning](javascript:void(0))

#### [Planning with abstraction and generalization](javascript:void(0))

#### [Robotic planning](javascript:void(0))

##### [Evolutionary robotics](javascript:void(0))

### [Search methodologies](javascript:void(0))

#### [Heuristic function construction](javascript:void(0))

### [Discrete space search](javascript:void(0))

#### [Continuous space search](javascript:void(0))

#### [Randomized search](javascript:void(0))

### [Game tree search](javascript:void(0))

### [Abstraction and micro-operators](javascript:void(0))

### [Search with partial observations](javascript:void(0))

## [Control methods](javascript:void(0))

### [Robotic planning](javascript:void(0))

#### [Evolutionary robotics](javascript:void(0))

### [Computational control theory](javascript:void(0))

### [Motion path planning](javascript:void(0))

## [Philosophical/theoretical foundations of artificial intelligence](javascript:void(0))

### [Cognitive science](javascript:void(0))

### [Theory of mind](javascript:void(0))

## [Distributed artificial intelligence](javascript:void(0))

### [Multi-agent systems](javascript:void(0))

### [Intelligent agents](javascript:void(0))

### [Mobile agents](javascript:void(0))

### [Cooperation and coordination](javascript:void(0))

## [Computer vision](javascript:void(0))

### [Computer vision tasks](javascript:void(0))

#### [Biometrics](javascript:void(0))

#### [Scene understanding](javascript:void(0))

#### [Activity recognition and understanding](javascript:void(0))

#### [Video summarization](javascript:void(0))

#### [Visual content-based indexing and retrieval](javascript:void(0))

#### [Visual inspection](javascript:void(0))

#### [Vision for robotics](javascript:void(0))

#### [Scene anomaly detection](javascript:void(0))

### [Image and video acquisition](javascript:void(0))

#### [Camera calibration](javascript:void(0))

#### [Epipolar geometry](javascript:void(0))

#### [Computational photography](javascript:void(0))

#### [Hyperspectral imaging](javascript:void(0))

#### [Motion capture](javascript:void(0))

#### [3D imaging](javascript:void(0))

#### [Active vision](javascript:void(0))

### [Computer vision representations](javascript:void(0))

#### [Image representations](javascript:void(0))

#### [Shape representations](javascript:void(0))

#### [Appearance and texture representations](javascript:void(0))

#### [Hierarchical representations](javascript:void(0))

### [Computer vision problems](javascript:void(0))

### [Interest point and salient region detections](javascript:void(0))

### [Image segmentation](javascript:void(0))

### [Video segmentation](javascript:void(0))

### [Shape inference](javascript:void(0))

### [Object detection](javascript:void(0))

### [Object recognition](javascript:void(0))

### [Object identification](javascript:void(0))

##### [Tracking](javascript:void(0))

##### [Reconstruction](javascript:void(0))

##### [Matching](javascript:void(0))

## [Machine learning](javascript:void(0))

### [Learning paradigms](javascript:void(0))

#### [Supervised learning](javascript:void(0))

##### [Ranking](javascript:void(0))

##### [Learning to rank](javascript:void(0))

##### [Supervised learning by classification](javascript:void(0))

##### [Supervised learning by regression](javascript:void(0))

##### [Structured outputs](javascript:void(0))

##### [Cost-sensitive learning](javascript:void(0))

#### [Unsupervised learning](javascript:void(0))

##### [Cluster analysis](javascript:void(0))

##### [Anomaly detection](javascript:void(0))

##### [Mixture modeling](javascript:void(0))

##### [Topic modeling](javascript:void(0))

##### [Source separation](javascript:void(0))

##### [Motif discovery](javascript:void(0))

##### [Dimensionality reduction and manifold learning](javascript:void(0))

#### [Reinforcement learning](javascript:void(0))

##### [Sequential decision making](javascript:void(0))

##### [Inverse reinforcement learning](javascript:void(0))

##### [Apprenticeship learning](javascript:void(0))

##### [Multi-agent reinforcement learning](javascript:void(0))

##### [Adversarial learning](javascript:void(0))

#### [Multi-task learning](javascript:void(0))

##### [Transfer learning](javascript:void(0))

##### [Lifelong machine learning](javascript:void(0))

##### [Learning under covariate shift](javascript:void(0))

### [Learning settings](javascript:void(0))

#### [Batch learning](javascript:void(0))

#### [Online learning settings](javascript:void(0))

#### [Learning from demonstrations](javascript:void(0))

#### [Learning from critiques](javascript:void(0))

#### [Learning from implicit feedback](javascript:void(0))

#### [Active learning settings](javascript:void(0))

#### [Semi-supervised learning settings](javascript:void(0))

### [Machine learning approaches](javascript:void(0))

#### [Classification and regression trees](javascript:void(0))

#### [Kernel methods](javascript:void(0))

##### [Support vector machines](javascript:void(0))

##### [Gaussian processes](javascript:void(0))

#### [Neural networks](javascript:void(0))

#### [Logical and relational learning](javascript:void(0))

##### [Inductive logic learning](javascript:void(0))

##### [Statistical relational learning](javascript:void(0))

#### [Learning in probabilistic graphical models](javascript:void(0))

##### [Maximum likelihood modeling](javascript:void(0))

##### [Maximum entropy modeling](javascript:void(0))

##### [Maximum a posteriori modeling](javascript:void(0))

##### [Mixture models](javascript:void(0))

##### [Latent variable models](javascript:void(0))

##### [Bayesian network models](javascript:void(0))

#### [Learning linear models](javascript:void(0))

##### [Perceptron algorithm](javascript:void(0))

#### [Factorization methods](javascript:void(0))

##### [Non-negative matrix factorization](javascript:void(0))

##### [Factor analysis](javascript:void(0))

##### [Principal component analysis](javascript:void(0))

##### [Canonical correlation analysis](javascript:void(0))

##### [Latent Dirichlet allocation](javascript:void(0))

#### [Rule learning](javascript:void(0))

#### [Instance-based learning](javascript:void(0))

#### [Markov decision processes](javascript:void(0))

#### [Partially-observable Markov decision processes](javascript:void(0))

#### [Stochastic games](javascript:void(0))

#### [Learning latent representations](javascript:void(0))

##### [Deep belief networks](javascript:void(0))

#### [Bio-inspired approaches](javascript:void(0))

##### [Artificial life](javascript:void(0))

##### [Evolvable hardware](javascript:void(0))

##### [Genetic algorithms](javascript:void(0))

##### [Genetic programming](javascript:void(0))

##### [Evolutionary robotics](javascript:void(0))

##### [Generative and developmental approaches](javascript:void(0))

### [Machine learning algorithms](javascript:void(0))

#### [Dynamic programming for Markov decision processes](javascript:void(0))

##### [Value iteration](javascript:void(0))

##### [Q-learning](javascript:void(0))

##### [Policy iteration](javascript:void(0))

##### [Temporal difference learning](javascript:void(0))

##### [Approximate dynamic programming methods](javascript:void(0))

#### [Ensemble methods](javascript:void(0))

##### [Boosting](javascript:void(0))

##### [Bagging](javascript:void(0))

#### [Spectral methods](javascript:void(0))

#### [Feature selection](javascript:void(0))

#### [Regularization](javascript:void(0))

### [Cross-validation](javascript:void(0))

## [Modeling and simulation](javascript:void(0))

### [Model development and analysis](javascript:void(0))

#### [Modeling methodologies](javascript:void(0))

#### [Model verification and validation](javascript:void(0))

#### [Uncertainty quantification](javascript:void(0))

### [Simulation theory](javascript:void(0))

#### [Systems theory](javascript:void(0))

#### [Network science](javascript:void(0))

### [Simulation types and techniques](javascript:void(0))

#### [Uncertainty quantification](javascript:void(0))

#### [Quantum mechanic simulation](javascript:void(0))

#### [Molecular simulation](javascript:void(0))

#### [Rare-event simulation](javascript:void(0))

#### [Discrete-event simulation](javascript:void(0))

#### [Agent / discrete models](javascript:void(0))

#### [Distributed simulation](javascript:void(0))

#### [Continuous simulation](javascript:void(0))

#### [Continuous models](javascript:void(0))

#### [Real-time simulation](javascript:void(0))

#### [Interactive simulation](javascript:void(0))

#### [Multiscale systems](javascript:void(0))

#### [Massively parallel and high-performance simulations](javascript:void(0))

#### [Data assimilation](javascript:void(0))

#### [Scientific visualization](javascript:void(0))

#### [Visual analytics](javascript:void(0))

#### [Simulation by animation](javascript:void(0))

#### [Artificial life](javascript:void(0))

### [Simulation support systems](javascript:void(0))

#### [Simulation environments](javascript:void(0))

#### [Simulation languages](javascript:void(0))

#### [Simulation tools](javascript:void(0))

### [Simulation evaluation](javascript:void(0))

## [Computer graphics](javascript:void(0))

### [Animation](javascript:void(0))

#### [Motion capture](javascript:void(0))

#### [Procedural animation](javascript:void(0))

#### [Physical simulation](javascript:void(0))

#### [Motion processing](javascript:void(0))

#### [Collision detection](javascript:void(0))

### [Rendering](javascript:void(0))

#### [Rasterization](javascript:void(0))

#### [Ray tracing](javascript:void(0))

#### [Non-photorealistic rendering](javascript:void(0))

#### [Reflectance modeling](javascript:void(0))

#### [Visibility](javascript:void(0))

### [Image manipulation](javascript:void(0))

#### [Computational photography](javascript:void(0))

#### [Image processing](javascript:void(0))

#### [Texturing](javascript:void(0))

#### [Image-based rendering](javascript:void(0))

#### [Antialiasing](javascript:void(0))

### [Graphics systems and interfaces](javascript:void(0))

#### [Graphics processors](javascript:void(0))

#### [Graphics input devices](javascript:void(0))

#### [Mixed / augmented reality](javascript:void(0))

#### [Perception](javascript:void(0))

#### [Graphics file formats](javascript:void(0))

#### [Virtual reality](javascript:void(0))

### [Image compression](javascript:void(0))

### [Shape modeling](javascript:void(0))

#### [Mesh models](javascript:void(0))

#### [Mesh geometry models](javascript:void(0))

#### [Parametric curve and surface models](javascript:void(0))

#### [Point-based models](javascript:void(0))

#### [Volumetric models](javascript:void(0))

#### [Shape analysis](javascript:void(0))

## [Distributed computing methodologies](javascript:void(0))

### [Distributed algorithms](javascript:void(0))

#### [MapReduce algorithms](javascript:void(0))

#### [Self-organization](javascript:void(0))

### [Distributed programming languages](javascript:void(0))

## [Concurrent computing methodologies](javascript:void(0))

### [Concurrent programming languages](javascript:void(0))

### [Concurrent algorithms](javascript:void(0))

# [Applied computing](javascript:void(0))

## [Electronic commerce](javascript:void(0))

### [Digital cash](javascript:void(0))

### [E-commerce infrastructure](javascript:void(0))

### [Electronic data interchange](javascript:void(0))

### [Electronic funds transfer](javascript:void(0))

### [Online shopping](javascript:void(0))

### [Online banking](javascript:void(0))

### [Secure online transactions](javascript:void(0))

### [Online auctions](javascript:void(0))

## [Enterprise computing](javascript:void(0))

### [Enterprise information systems](javascript:void(0))

#### [Intranets](javascript:void(0))

#### [Extranets](javascript:void(0))

#### [Enterprise resource planning](javascript:void(0))

#### [Enterprise applications](javascript:void(0))

#### [Data centers](javascript:void(0))

### [Business process management](javascript:void(0))

#### [Business process modeling](javascript:void(0))

#### [Business process management systems](javascript:void(0))

#### [Business process monitoring](javascript:void(0))

#### [Cross-organizational business processes](javascript:void(0))

#### [Business intelligence](javascript:void(0))

### [Enterprise architectures](javascript:void(0))

#### [Enterprise architecture management](javascript:void(0))

#### [Enterprise architecture frameworks](javascript:void(0))

#### [Enterprise architecture modeling](javascript:void(0))

### [Service-oriented architectures](javascript:void(0))

### [Event-driven architectures](javascript:void(0))

### [Business rules](javascript:void(0))

### [Enterprise modeling](javascript:void(0))

### [Enterprise ontologies, taxonomies and vocabularies](javascript:void(0))

### [Enterprise data management](javascript:void(0))

### [Reference models](javascript:void(0))

### [Business-IT alignment](javascript:void(0))

### [IT architectures](javascript:void(0))

### [IT governance](javascript:void(0))

### [Enterprise computing infrastructures](javascript:void(0))

### [Enterprise interoperability](javascript:void(0))

#### [Enterprise application integration](javascript:void(0))

#### [Information integration and interoperability](javascript:void(0))

## [Physical sciences and engineering](javascript:void(0))

### [Aerospace](javascript:void(0))

#### [Avionics](javascript:void(0))

### [Archaeology](javascript:void(0))

### [Astronomy](javascript:void(0))

### [Chemistry](javascript:void(0))

### [Earth and atmospheric sciences](javascript:void(0))

#### [Environmental sciences](javascript:void(0))

### [Engineering](javascript:void(0))

#### [Computer-aided design](javascript:void(0))

### [Physics](javascript:void(0))

### [Mathematics and statistics](javascript:void(0))

### [Electronics](javascript:void(0))

#### [Avionics](javascript:void(0))

### [Telecommunications](javascript:void(0))

#### [Internet telephony](javascript:void(0))

## [Life and medical sciences](javascript:void(0))

### [Computational biology](javascript:void(0))

#### [Molecular sequence analysis](javascript:void(0))

#### [Recognition of genes and regulatory elements](javascript:void(0))

#### [Molecular evolution](javascript:void(0))

#### [Computational transcriptomics](javascript:void(0))

#### [Biological networks](javascript:void(0))

#### [Sequencing and genotyping technologies](javascript:void(0))

#### [Imaging](javascript:void(0))

#### [Computational proteomics](javascript:void(0))

#### [Molecular structural biology](javascript:void(0))

#### [Computational genomics](javascript:void(0))

### [Genomics](javascript:void(0))

#### [Computational genomics](javascript:void(0))

### [Systems biology](javascript:void(0))

### [Consumer health](javascript:void(0))

### [Health care information systems](javascript:void(0))

### [Health informatics](javascript:void(0))

### [Bioinformatics](javascript:void(0))

### [Metabolomics / metabonomics](javascript:void(0))

### [Genetics](javascript:void(0))

#### [Population genetics](javascript:void(0))

#### [Proteomics](javascript:void(0))

##### [Computational proteomics](javascript:void(0))

#### [Transcriptomics](javascript:void(0))

## [Law, social and behavioral sciences](javascript:void(0))

### [Anthropology](javascript:void(0))

#### [Ethnography](javascript:void(0))

### [Law](javascript:void(0))

### [Psychology](javascript:void(0))

### [Economics](javascript:void(0))

### [Sociology](javascript:void(0))

## [Computer forensics](javascript:void(0))

### [Surveillance mechanisms](javascript:void(0))

### [Investigation techniques](javascript:void(0))

### [Evidence collection, storage and analysis](javascript:void(0))

### [Network forensics](javascript:void(0))

### [System forensics](javascript:void(0))

### [Data recovery](javascript:void(0))

## [Arts and humanities](javascript:void(0))

### [Fine arts](javascript:void(0))

### [Performing arts](javascript:void(0))

### [Architecture (buildings)](javascript:void(0))

#### [Computer-aided design](javascript:void(0))

### [Language translation](javascript:void(0))

### [Media arts](javascript:void(0))

### [Sound and music computing](javascript:void(0))

## [Computers in other domains](javascript:void(0))

### [Digital libraries and archives](javascript:void(0))

### [Publishing](javascript:void(0))

### [Military](javascript:void(0))

#### [Cyberwarfare](javascript:void(0))

### [Cartography](javascript:void(0))

### [Agriculture](javascript:void(0))

### [Computing in government](javascript:void(0))

#### [Voting / election technologies](javascript:void(0))

#### [E-government](javascript:void(0))

### [Personal computers and PC applications](javascript:void(0))

#### [Word processors](javascript:void(0))

#### [Spreadsheets](javascript:void(0))

#### [Computer games](javascript:void(0))

#### [Microcomputers](javascript:void(0))

## [Operations research](javascript:void(0))

### [Consumer products](javascript:void(0))

### [Industry and manufacturing](javascript:void(0))

#### [Supply chain management](javascript:void(0))

#### [Command and control](javascript:void(0))

### [Computer-aided manufacturing](javascript:void(0))

### [Decision analysis](javascript:void(0))

#### [Multi-criterion optimization and decision-making](javascript:void(0))

### [Transportation](javascript:void(0))

### [Forecasting](javascript:void(0))

### [Marketing](javascript:void(0))

## [Education](javascript:void(0))

### [Digital libraries and archives](javascript:void(0))

### [Computer-assisted instruction](javascript:void(0))

### [Interactive learning environments](javascript:void(0))

### [Collaborative learning](javascript:void(0))

### [Learning management systems](javascript:void(0))

### [Distance learning](javascript:void(0))

### [E-learning](javascript:void(0))

### [Computer-managed instruction](javascript:void(0))

## [Document management and text processing](javascript:void(0))

### [Document searching](javascript:void(0))

### [Document management](javascript:void(0))

#### [Text editing](javascript:void(0))

#### [Version control](javascript:void(0))

#### [Document metadata](javascript:void(0))

### [Document capture](javascript:void(0))

#### [Document analysis](javascript:void(0))

#### [Document scanning](javascript:void(0))

#### [Graphics recognition and interpretation](javascript:void(0))

#### [Optical character recognition](javascript:void(0))

#### [Online handwriting recognition](javascript:void(0))

### [Document preparation](javascript:void(0))

#### [Markup languages](javascript:void(0))

##### [Extensible Markup Language (XML)](javascript:void(0))

##### [Hypertext languages](javascript:void(0))

#### [Annotation](javascript:void(0))

#### [Format and notation](javascript:void(0))

#### [Multi / mixed media creation](javascript:void(0))

#### [Image composition](javascript:void(0))

#### [Hypertext / hypermedia creation](javascript:void(0))

#### [Document scripting languages](javascript:void(0))

# [Social and professional topics](javascript:void(0))

## [Professional topics](javascript:void(0))

### [Computing industry](javascript:void(0))

#### [Industry statistics](javascript:void(0))

#### [Computer manufacturing](javascript:void(0))

#### [Sustainability](javascript:void(0))

### [Management of computing and information systems](javascript:void(0))

#### [Project and people management](javascript:void(0))

##### [Project management techniques](javascript:void(0))

##### [Project staffing](javascript:void(0))

##### [Systems planning](javascript:void(0))

##### [Systems analysis and design](javascript:void(0))

##### [Systems development](javascript:void(0))

##### [Computer and information systems training](javascript:void(0))

#### [Implementation management](javascript:void(0))

##### [Hardware selection](javascript:void(0))

##### [Computing equipment management](javascript:void(0))

##### [Pricing and resource allocation](javascript:void(0))

#### [Software management](javascript:void(0))

##### [Software maintenance](javascript:void(0))

##### [Software selection and adaptation](javascript:void(0))

#### [System management](javascript:void(0))

##### [Centralization / decentralization](javascript:void(0))

##### [Technology audits](javascript:void(0))

##### [Quality assurance](javascript:void(0))

#### [Network operations](javascript:void(0))

#### [File systems management](javascript:void(0))

#### [Information system economics](javascript:void(0))

### [History of computing](javascript:void(0))

#### [Historical people](javascript:void(0))

#### [History of hardware](javascript:void(0))

#### [History of software](javascript:void(0))

#### [History of programming languages](javascript:void(0))

#### [History of computing theory](javascript:void(0))

### [Computing education](javascript:void(0))

#### [Computational thinking](javascript:void(0))

#### [Accreditation](javascript:void(0))

#### [Model curricula](javascript:void(0))

#### [Computing education programs](javascript:void(0))

##### [Information systems education](javascript:void(0))

##### [Computer science education](javascript:void(0))

[CS1](javascript:void(0))

##### [Computer engineering education](javascript:void(0))

##### [Information technology education](javascript:void(0))

##### [Information science education](javascript:void(0))

##### [Computational science and engineering education](javascript:void(0))

##### [Software engineering education](javascript:void(0))

#### [Informal education](javascript:void(0))

#### [Computing literacy](javascript:void(0))

#### [Student assessment](javascript:void(0))

#### [K-12 education](javascript:void(0))

#### [Adult education](javascript:void(0))

### [Computing and business](javascript:void(0))

#### [Employment issues](javascript:void(0))

#### [Automation](javascript:void(0))

#### [Computer supported cooperative work](javascript:void(0))

#### [Economic impact](javascript:void(0))

#### [Offshoring](javascript:void(0))

#### [Reengineering](javascript:void(0))

#### [Socio-technical systems](javascript:void(0))

### [Computing profession](javascript:void(0))

#### [Codes of ethics](javascript:void(0))

#### [Employment issues](javascript:void(0))

#### [Funding](javascript:void(0))

#### [Computing occupations](javascript:void(0))

#### [Computing organizations](javascript:void(0))

#### [Testing, certification and licensing](javascript:void(0))

#### [Assistive technologies](javascript:void(0))

## [Computing / technology policy](javascript:void(0))

### [Intellectual property](javascript:void(0))

#### [Digital rights management](javascript:void(0))

#### [Copyrights](javascript:void(0))

#### [Software reverse engineering](javascript:void(0))

#### [Patents](javascript:void(0))

#### [Trademarks](javascript:void(0))

#### [Internet governance / domain names](javascript:void(0))

#### [Licensing](javascript:void(0))

#### [Treaties](javascript:void(0))

#### [Database protection laws](javascript:void(0))

#### [Secondary liability](javascript:void(0))

#### [Soft intellectual property](javascript:void(0))

#### [Hardware reverse engineering](javascript:void(0))

### [Privacy policies](javascript:void(0))

### [Censorship](javascript:void(0))

#### [Pornography](javascript:void(0))

#### [Hate speech](javascript:void(0))

#### [Political speech](javascript:void(0))

#### [Technology and censorship](javascript:void(0))

#### [Censoring filters](javascript:void(0))

### [Surveillance](javascript:void(0))

#### [Governmental surveillance](javascript:void(0))

#### [Corporate surveillance](javascript:void(0))

### [Commerce policy](javascript:void(0))

#### [Taxation](javascript:void(0))

#### [Transborder data flow](javascript:void(0))

#### [Antitrust and competition](javascript:void(0))

#### [Governmental regulations](javascript:void(0))

#### [Online auctions policy](javascript:void(0))

#### [Consumer products policy](javascript:void(0))

### [Network access control](javascript:void(0))

#### [Censoring filters](javascript:void(0))

#### [Broadband access](javascript:void(0))

#### [Net neutrality](javascript:void(0))

#### [Network access restrictions](javascript:void(0))

##### [Age-based restrictions](javascript:void(0))

##### [Acceptable use policy restrictions](javascript:void(0))

#### [Universal access](javascript:void(0))

### [Computer crime](javascript:void(0))

#### [Social engineering attacks](javascript:void(0))

##### [Spoofing attacks](javascript:void(0))

##### [Phishing](javascript:void(0))

#### [Identity theft](javascript:void(0))

#### [Financial crime](javascript:void(0))

#### [Malware / spyware crime](javascript:void(0))

### [Government technology policy](javascript:void(0))

#### [Governmental regulations](javascript:void(0))

#### [Import / export controls](javascript:void(0))

### [Medical information policy](javascript:void(0))

#### [Medical records](javascript:void(0))

#### [Personal health records](javascript:void(0))

#### [Genetic information](javascript:void(0))

#### [Patient privacy](javascript:void(0))

#### [Health information exchanges](javascript:void(0))

#### [Medical technologies](javascript:void(0))

##### [Remote medicine](javascript:void(0))

## [User characteristics](javascript:void(0))

### [Race and ethnicity](javascript:void(0))

### [Religious orientation](javascript:void(0))

### [Gender](javascript:void(0))

#### [Men](javascript:void(0))

#### [Women](javascript:void(0))

### [Sexual orientation](javascript:void(0))

### [People with disabilities](javascript:void(0))

### [Geographic characteristics](javascript:void(0))

### [Cultural characteristics](javascript:void(0))

### [Age](javascript:void(0))

#### [Children](javascript:void(0))

#### [Seniors](javascript:void(0))

#### [Adolescents](javascript:void(0))