COM219 Research Paper

The research paper should contain at least 3 letter-size pages of text typed with a 12-point font and 1.5 line spacing not including figures and references. You may include informative figures in your paper. All margins should be approximately 1 inch. The paper should contain a clear description of the topic, practical examples, its utility, numerical values for state-of-the-art capacity/performance, comparison with other competing architectures or technologies. It should contain at least 5 references listed at the end of the paper. At most one of those references can be a wiki article (not just Wikipedia). All references listed should be strictly cited in the text. If online references are used, factual data should be crosschecked with other sources.

Example Paper Topics

Topic	Topic
Mobile computing - CPUs	Mobile computing – operating systems and hardware
Von Neumann architecture	Server farms
Multicore processors	GPU processing for deep learning
Multithreading	Hardware for machine vision and self-driving cars
Cache	Internet of things - devices
Vector/Scalar processors	Motherboards /Chipsets
Game console architectures	BIOS
Computer interfaces for gaming	Overclocking
Pipelining	Memory hierarchy: purpose, speed, capacity, cost
Parallel processing	Memory interconnect: DDR4
Superscalar CPU architectures	Graphics Processing Unit (GPU)
General-purpose computing on graphics processing units	Graphics cards, Open GL and Direct3D
Cloud computing	Sound Cards
Supercomputers	Computer main buses: AGP, PCI, HyperTransport, QPI
Performance benchmarks	SCSI/SATA
Choosing parts for a PC Workstation	FireWire/USB/Thunderbolt/External PCI Express
Emulation	Ethernet
Virtualization	Bluetooth
Quantum Computing	Microcontrollers