BYTE QUEST

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Department Of Computer Science and Engineering

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Byte Quest is the article published by the CSE dept of Vasavi College of Engineering regarding the latest innovative Technologies and Software that have been emerged in the competitive world. The motto of this article is to update the people regarding the improvement in technology. The article is designed by the active participation of students under the guidance of faculty coordinators.

- Good ,bad or indifferent if you are not investing in new technology , you are going to be left behind.

  -Philip Green

- Once a new technology rolls over you, if you're not part of the steamroller, you're part of the road.

  -Stewart Brand.

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BIOLOGICALLY INSPIRED DESIGN

Computational sustainability—the use of computing to address problems of environmental sustainability—is emerging as a major theme in AI research. Since 2011 the Association for the Advancement of Artificial Intelligence (AAAI) has organized a special track on computational sustainability as part of its annual National Conference on AI.

Most research on computational sustainability has focused on monitoring, modeling, analysis, and optimization of existing systems can result in signifi cant savings in critical resources such as energy and water.

Another possibility is to think about this problem in terms of the efficient, more sustainable, computational sustainability the use of computing to address problems of environmental sustainability is emerging as a major theme in AI research.

Biologically inspired design encourages designers to view traditional problems from novel perspectives.

- B. Jaiveer (CSE-B 2/4)

BEYOND BITS : THE FUTURE OF QUANTUM INFORMATION PROCESSING

Today's computers, for all their marvels, operate on the same fundamental princ-iple as the mechanical devices dreamed up by Charles Babbage in the 19th century and later formalized by Alan Turing: One stable state of the machine represents one number.

In the 21st century, we expect to see these theories unite to form an even more powerful force for advancement: quantum information theory. QUANTUM COMPUTING enables the encoding of information in quantum bits (qubits). A quantum register of 64 qubits can store 264 values at once. Quantum computers can perform computations on all these values at the same time.

Computation using quantum parallelism is often called entanglement - enhanced information processing. Unfortunately, in quantum computing, any measure disturbs the state, thus destroying the quantum parallelism.

- M. Akshay (CSE-B 2/4)

A PRACTICAL MODEL FOR LIVE SPEECH-DRIVEN LIP-SYNC

The approaches to generate speech animation based on live acoustic speech input have demonstrated their real-time runtime efficiency on an off-the-shelf computer, but their performance is highly speaker-dependent because of the individual-specific nature of the chosen acoustic speech features. The visual realism of these approaches is insufficient, so they're less suitable for graphics and animation applications.

Live speech-driven lip-sync involves several challenges. First, additional technical challenges are involved compared with prerecorded speech, where expensive global optimization techniques can help find the most plausible speech motion corresponding to novel spoken or typed input.

Second, live speech-driven lip-sync algorithms must be highly efficient to ensure real-time speed on an off-theshelf computer, whereas offline speech animation synthesis algorithms don't need to meet such tight time constraints.

A simple, efficient, yet practical phoneme -based approach to generating realistic speech animation in real time based on live speech input starts with decomposing lower-face movements and ends with applying motion blending.

Compared with existing lip-sync approaches, the main advantages of our method are its efficiency, simplicity, and capability of handling live speech input in real time.

A. Karthik (CSE-B 2/4)