



ECHELON M AGAZINE

TECHNO TRACK

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
SRI VENKATESHWARA COLLEGE OF ENGINEERING

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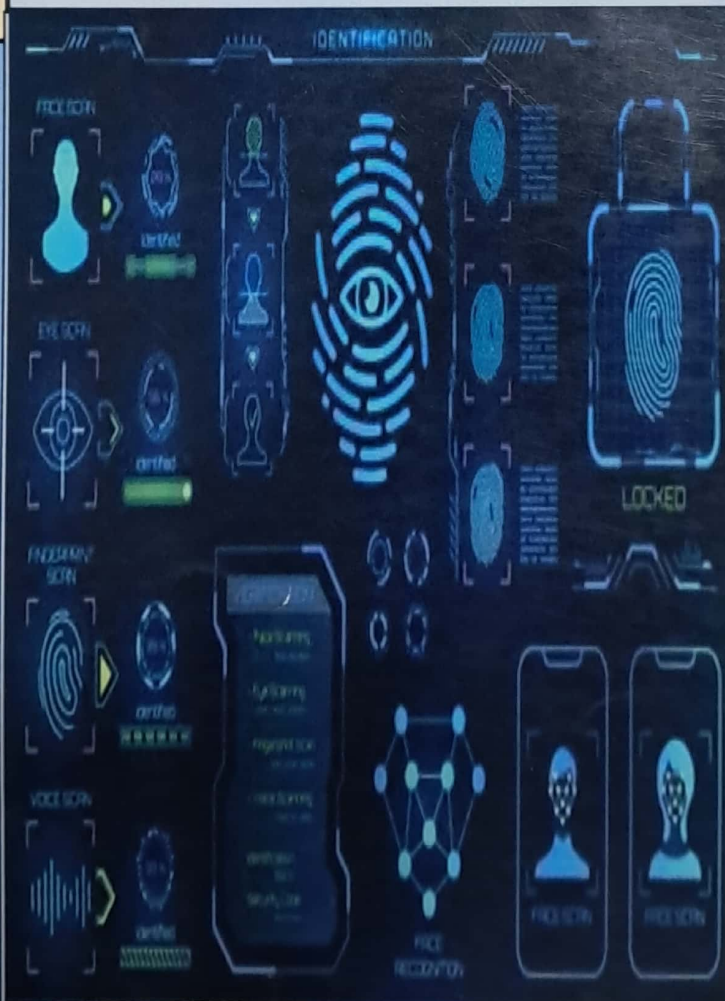
BIO METRICS

In recent years, more companies have adopted the use of biometric data, such as facial recognition software and applications, in their internal business operations and to analyze customer behaviors for marketing purposes. This trend has been met with substantial legal action due to the private right of action and availability of liquidated damages under some state laws. The leading domestic biometric state law, the Illinois Biometric Information Privacy Act (BIPA), triggered a surge of class action lawsuits on the collection, safeguarding or retention of biometric data, including employment-related class actions. A recent Illinois state court decision, however, may change the landscape for biometric lawsuits in 2018.

In *Rosenbach v. Six Flags Entertainment Corp.*, the court held that the plaintiffs must claim actual harm, rather than simply a technical violation, to be considered an "aggrieved person" under BIPA, signaling that courts may be looking to reign in the number of BIPA-related class actions. As the *Rosenbach* decision is the first of its kind, plaintiffs will likely continue to test what constitutes an "aggrieved person" under BIPA.

Key Takeaways

Companies are vying for control of biometrics and AI, the hot new technological frontiers. But like many new technologies, they come with a double- before collecting and using and boost their approach with caution and include.

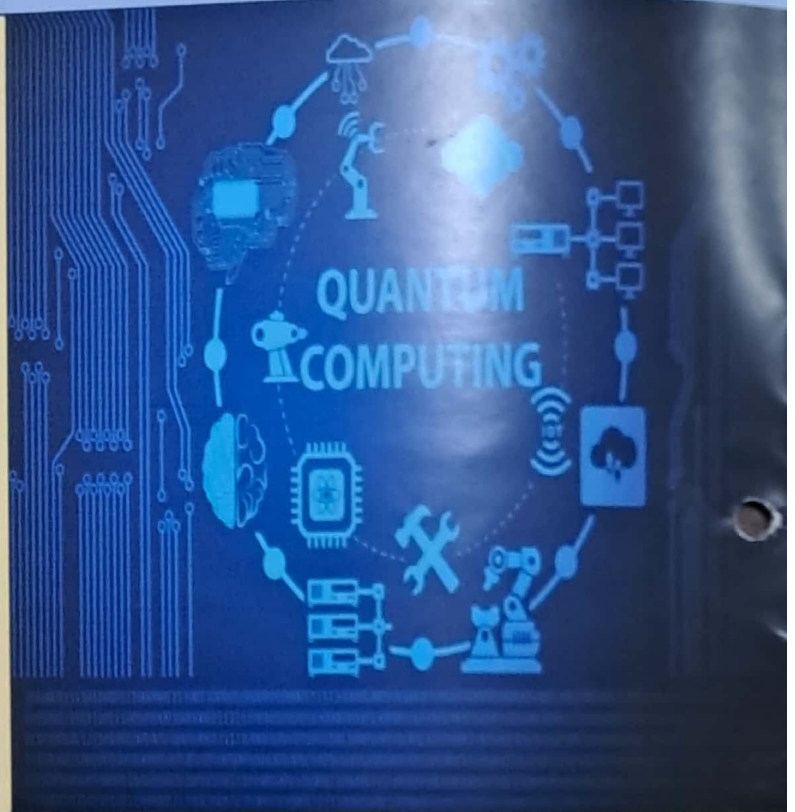


N.Yogi
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QUANTUM COMPUTING

Quantum computing is a rapidly-emerging technology that harnesses the laws of quantum mechanics to solve problems too complex for classical computers.

Today, IBM Quantum makes real quantum hardware -- a tool scientists only began to imagine three decades ago -- available to hundreds of thousands of developers. Our engineers deliver ever-more-powerful superconducting quantum processors at regular intervals, alongside crucial advances in software and quantum-classical orchestration. This work drives toward the quantum computing speed and capacity necessary to change the world



A classical processor uses bits to perform its operations. A quantum computer uses qubits (QUBITS) to run multidimensional quantum algorithms. Your desktop computer likely uses a fan to get cold enough to work. Our quantum processors need to be very cold -- about a hundredth of a degree above absolute zero.

Superconductors

At those ultra-low temperatures certain materials in our processors exhibit another important quantum mechanical effect: electrons move through them without resistance. This makes them "superconductors." When electrons pass through superconductors they match up, forming "Cooper pairs." These pairs can carry a charge across barriers, or insulators, through a process known as quantum tunneling. Two superconductors placed on either side of an insulator form a Josephson junction. Control

Our quantum computers use Josephson junctions as superconducting qubits. By firing microwave photons at these qubits, we can control their behavior and get them to hold, change, and read out individual units of quantum information. Quantum computing uses the qubit as the basic unit of information rather than the conventional bit. The main characteristic of this alternative system is that it permits the coherent superposition of ones and zeros, the digits of the binary system around which all computing revolves. Bits, on the other hand, can only have one value at a time -- either one or zero.

Lukesh Chandra
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COMPUTING GENOMICS



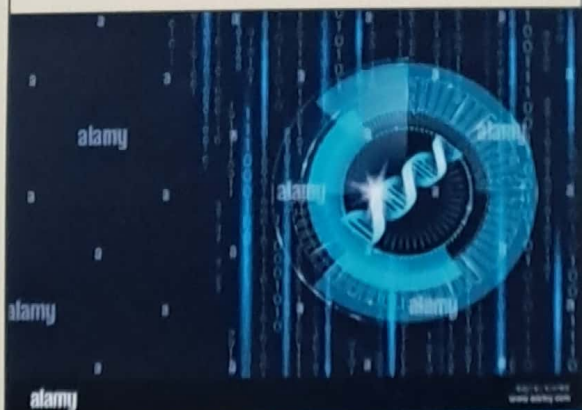
Computational Genomics

Computational genomics is a major focus of the department. Computational genomics involves the application of techniques from the fields of computer science and statistics to problems in genomics. A single data set in genomics can routinely provide more than a million measurements, often necessitating the need for innovative computational methods to extract the desired knowledge from such data. Over the past two decades, advances in genomics have significantly contributed to our understanding of disease. In 2005, there were only a handful of genes implicated in diseases. Today, there are more than 150,000 genes implicated in human disease..

computational genomics refers to the use of computational and statistical analysis to decipher biology from genome sequences and related data, including both DNA and RNA sequence as well as other "post-genomic" data (i.e., experimental data obtained.

Computer software has played a central role in the development of genomics during the past 50 years. However, it is less clear whether computer *science* has mattered for genomics, or whether genomics has led to new computer science. I'll examine, via a series of examples, questions about Bio: Lior Pachter was born in Ramat Gan, Israel, and grew up in Pretoria, South Africa where he attended Pretoria Boys High School. After receiving a B.S. in Mathematics from Caltech in 1994, He left for MIT where he was awarded a

His research interests span the mathematical and biological sciences, and he has authored over 100 research articles in the areas of algorithms, combinatorics, comparative genomics, algebraic statistics, molecular biology and evolution. Bioinformatic tools have been developed to predict, and determine the abundance and expression of, this kind of gene cluster in microbiome samples, from metagenomic data.



MOKSHITH
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