MAGAZINE

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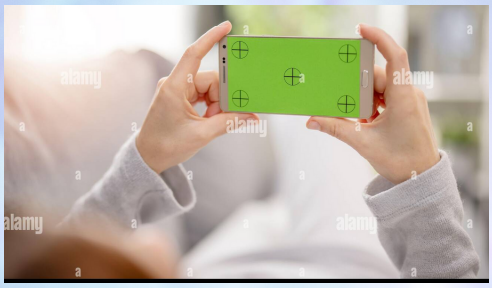
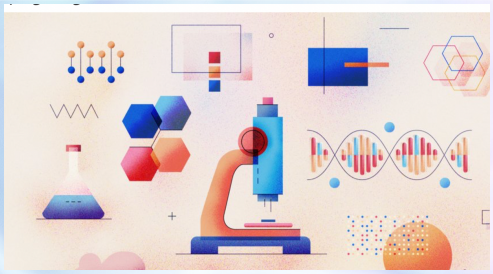
Byte Quest

Department of CSE



ALPHA COMPOSITING TECHNOLOGY

DART PROGRAMMING LANGUAGE



BIO INFORMATICS

ETHICAL HACKING

Department Vision

To be a center for academic excellence in the field of Computer Science and Engineering education to enable graduates to be ethical and competent professionals.

Department Mission

To enable students to develop logic and problem solving approach that will help build their careers in the innovative field of computing and provide creative solutions for the benefit of society.

FACULTY COORDINATORS

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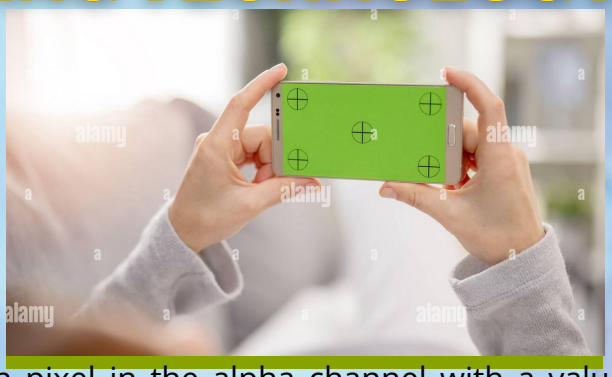
ALPHA COMPOSITING TECHNOLOGY



Alpha compositing is the process of combining an image with a background to create the appearance of partial transparency. It is mostly used in 2D graphics. Compositing also used to combine images and live footage. It is a vital but simple processAlpha channel is the concept designed to store information.Additional information is stored corresponding to each pixel in the alpha channel with a value between zero and one. Alpha compositing is the most used due to its easy way of usage and amazing features. The result is worth taking notice and better than that found in any other method. The alpha idea been used to composite billions of pixels (if not more) to create images for print, video, film, and probably every other application of computer graphics. Alpha compositing uses the alpha values, or channel (bit mask) to represent the coverage of each pixel. The alpha channel is a colour component that represents the degree of transparency or opacity of a colour i.e., the red, green, and blue channels. It is used to determine how a pixel is rendered when blended with another.

DART PROGRAMMING LANGUAGE

Dart is a client-optimized language for developing fast apps on any platform. Its goal is to offer the most productive programming language for multi-platform development, paired with a flexible execution runtime platform for app frameworks.

Dart

Dart is designed for a technical envelope that is particularly suited to client development, prioritizing both development (sub-second stateful hot reload) and high-quality production experiences across a wide variety of compilation targets (web, mobile, and desktop).

Dart also forms the foundation of Flutter. Dart provides the language and runtimes that power Flutter apps, but Dart also supports many core developer tasks like formatting, analyzing, and testing code.

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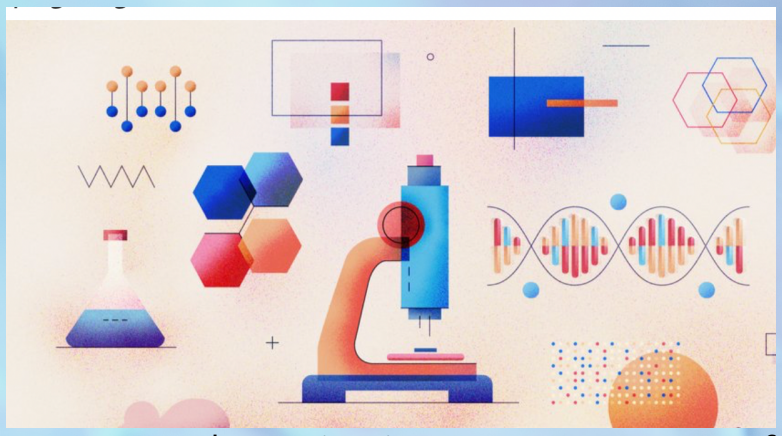
BIOINFORMATICS



Bioinformatics, a hybrid science that links biological data with techniques for information storage, distribution, and analysis to support multiple areas of scientific research, including biomedicine. It is fed by high-throughput data-generating experiments, including genomic sequence determinations, measurements of gene expression patterns, protein functions, establishing evolutionary relationships, and predicting the three-dimensional shapes of proteins.

This multidisciplinary field is driven by experts from a variety of backgrounds: biologists, computer scientists, mathematicians, statisticians, and physicists. In bioinformatics, data banks are used to store and organize data. The major database of biological macromolecular structure is the worldwide Protein Data Bank (wwPDB).

The development of efficient algorithms for measuring sequence similarity is an important goal of bioinformatics. The Needleman-Wunsch algorithm, which is based on dynamic programming, guarantees finding the optimal alignment of pairs of sequences. However, it is too slow for probing a large sequence database which gave rise to program BLAST (Basic Local Alignment Search Tool). A development of BLAST, known as position-specific iterated- (or PSI-) BLAST, makes use of patterns of conservation in related sequences and combines the high speed of BLAST with very high sensitivity to find related sequences.

Initially, much bioinformatics research has had a relatively narrow focus. Now, however, the goals of bioinformatics are integrative and are aimed at figuring out how combinations of different types of data can be used to understand natural phenomena, including organisms and disease.

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ETHICAL HACKING

Ethical hacking is a process of detecting vulnerabilities in an application, system, or organization's infrastructure that an attacker can use to exploit an individual or organization. They use this process to prevent cyberattacks and security breaches by lawfully hacking into the systems and looking for weak points. There are 5 phases of ethical hacking which are:

1.RECONNAISSANCE: The goal of this preparatory phase is to collect as much information as possible. Before launching an attack, the attacker collects all the necessary information about the target.

2.SCANNING: Here, attackers try to find different ways to gain the target's information. This step of ethical hacking involves finding easy and quick ways to access the network and skim for information. There are three types of scanning practices which are used in hacking methodology which are: Vulnerability scanning, Port Scanning, Network Scanning.

3.GAINING ACCESS: Here, an attacker uses all means to get unauthorized access to the target's systems, applications, or networks. An attacker can use various tools and methods to gain access and enter a system.

4.MAINTAINING ACCESS: In this stage, the hacker continuously exploits the system, launches DDoS attacks, uses the hijacked system as a launching pad, or steals the entire database.

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