



NAVONMESH

DEPARTMENT OF COMPUTER SCIENCE &
ENGINEERING

4th
EDITION

ANNUAL
TECH
MAGAZINE

- AI, ML & DEEP LEARNING
- MOBILE APP DEVELOPMENT
- QUANTUM COMPUTING
- CYBERSECURITY

2023-24





VISION

TO EMERGE AS A CENTER OF EXCELLENCE, IN THE FIELD OF COMPUTER SCIENCE AND ENGINEERING & RESEARCH, BY GROOMING OUR PUPILS WITH STRONG CONCEPTUAL KNOWLEDGE TO ENABLE THEM AS A PROFESSIONAL AND RESEARCHER FOR THE BENEFIT OF SOCIETY.

MISSION

- TO INculcate self-motivation among the students, who can find and understand the need of the day.
- TO PRODUCE BEST QUALITY PROFESSIONALS WITH STRONG CONCEPTUAL KNOWLEDGE AND HANDS-ON EXPERIENCE.
- TO ENABLE THE STUDENTS TO BE TECHNICALLY COMPETENT AMONG THEIR PEERS AND SERVE AS ETHICAL SOFTWARE PROFESSIONALS.
- TO FACILITATE INDUSTRY INTERACTION EXPOSURE FOR THE BENEFIT OF THE STAKEHOLDERS.
- TO MOTIVATE FACULTIES AND STUDENTS FOR CONTINUOUS IMPROVEMENT OF THEIR ACADEMIC STANDARDS WITH QUALITATIVE RESEARCH.

PROGRAM EDUCATIONAL OBJECTIVES

1

FOUNDATION

To promulgate strong foundation in Applied Sciences, Mathematics and Engineering fundamentals.

2

COMPUTATION

To be able to comprehend, analyze and map the computational logics with real time problems.

3

INNOVATION

To provide extensive knowledge to design and build products with innovative solutions for problems using their skills in Computer Science and Engineering and other related domains.

4

LIFELONG LEARNING

To inculcate attributes such as self-confidence, ethics, teamwork, leadership skills, communication skills for life-long learning.

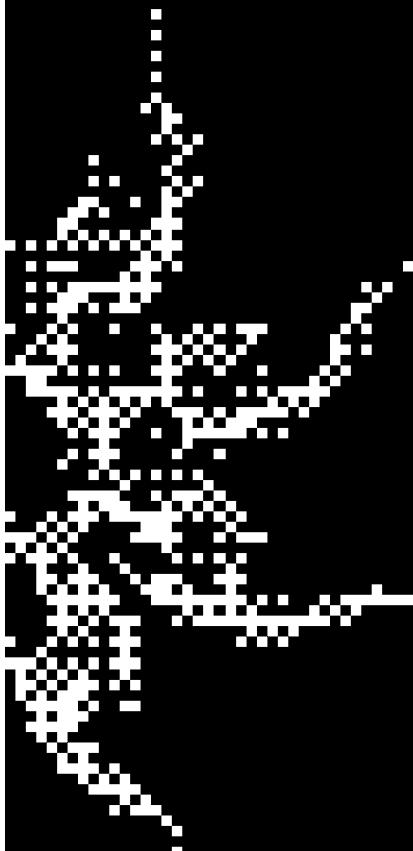
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CAREER PATHS

To succeed with excellence as computer professionals or successful entrepreneurs or pursue higher studies through quality education.



PROGRAM SPECIFIC OUTCOME



1

FUNDAMENTALS

To develop and integrate knowledge of different disciplines- Computer Science, Electronics, Economics, Mathematics and Statistics to analyze and design computing solutions to solve the problems in different domains.

2

LEADERSHIP

To exhibit the ability to ethically excel in life-long professional career, higher studies and entrepreneurship with good communication, writing and leadership skills for the benefit of society.

3

UPSKILLING

To demonstrate research and technical skills for emerging areas to produce solutions to problems through open source and proprietary platforms.

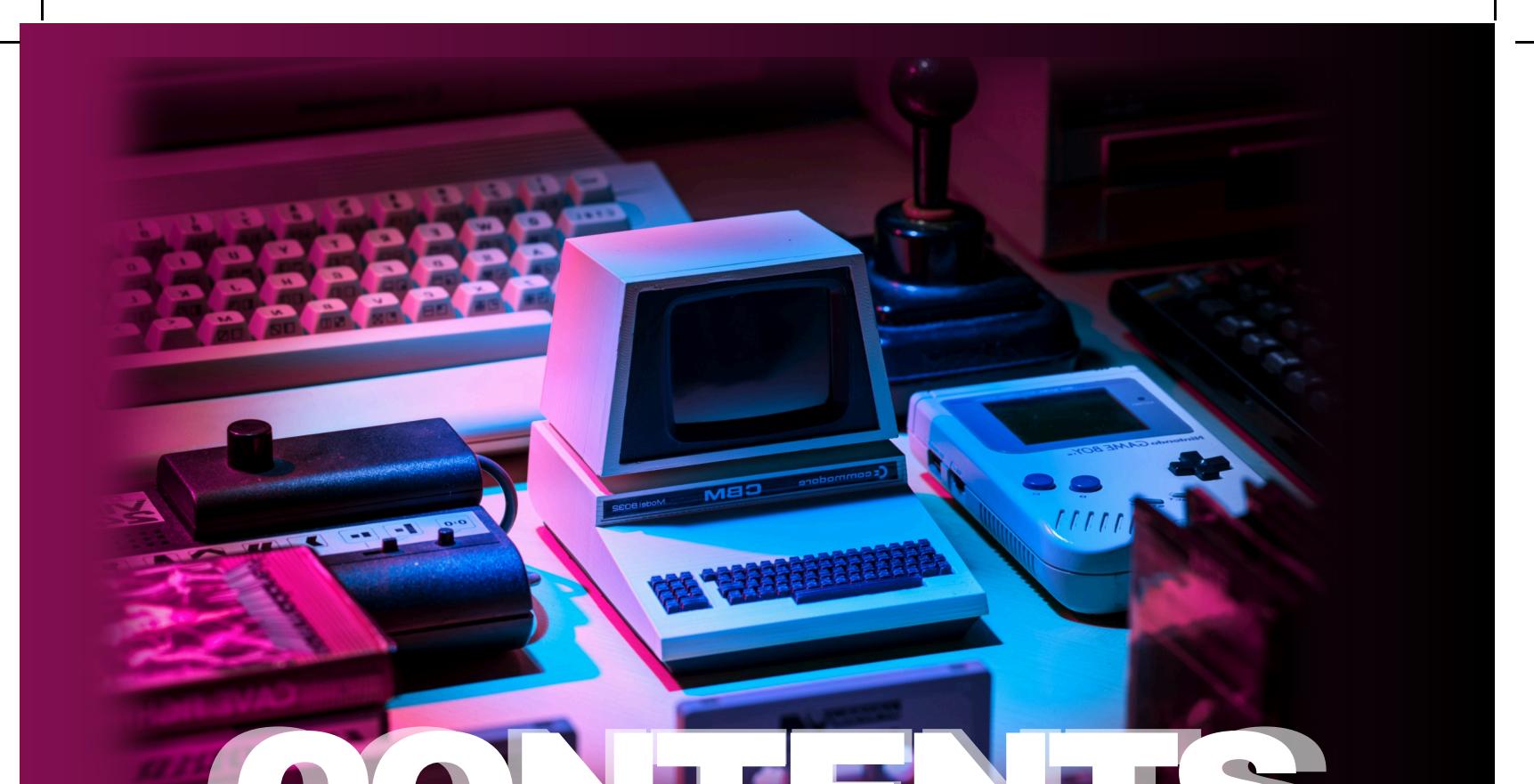
04

**“ONE WAY
YOU THAT
KNOW
WHEN THIS
IS WORKIN,
IS THAT
YOU’LL GET
GROWTH
BY WORD
OF
MOUTH”**



SAM ALTMAN
CEO of OpenAI





CONTENTS

ARTICLES

- 10 QUANTUM COMPUTERS-
THE BRIDGE BETWEEN COMPUTER SCIENCE AND QUANTUM PHYSICS
- 11 CYBERSECURITY: PROTECTING THE DIGITAL FRONTIER
- 13 ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, AND DEEP LEARNING: THE PROSPECTS OF INTELLIGENT TECHNOLOGY
- 15 HOW TO REMOVE BLOATWARE FROM YOUR ANDROID PHONE
- 17 MOBILE APP DEVELOPMENT: THE BEST WAY TO MAKE MOBILE APPS IN 2023

PROJECTS & REPORTS

- 20 DEEP DIVING INTO SEI NETWORK!
- 23 BLOCKCHAIN-BASED SECURE STORAGE SYSTEM AND SMART POLICING

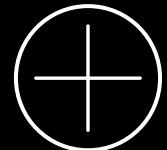
- 25 ABOUT HACKTOBERFEST

EDITORIAL BOARD

- 27 FACULTY EDITORIAL BOARD

- 28 STUDENT EDITORIAL BOARD

QUANTUM COMPUTERS- THE BRIDGE BETWEEN COMPUTER SCIENCE AND QUANTUM PHYSICS

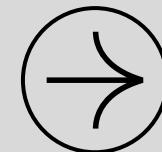


IQM Quantum Computer in Espoo Finland

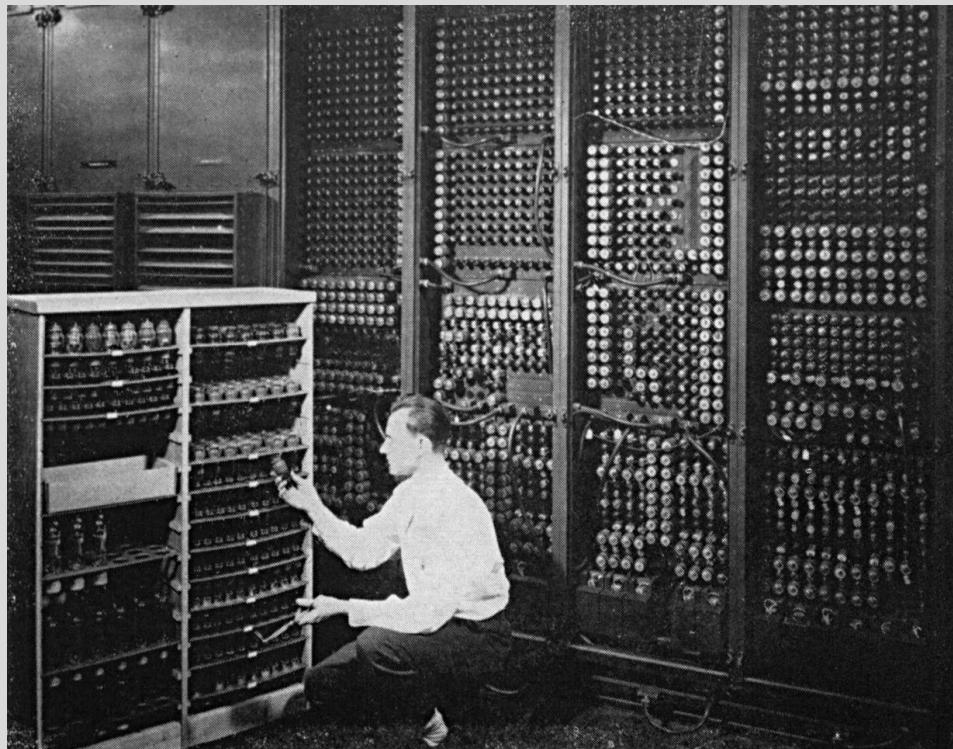
When we think about the future of technology we envision about how computers will become more advanced and AI will take over most of our tasks but, that is not essentially true.

In the new era of technology Quantum computer have gained much needed importance. These types of computers are very different from our conventional computers since they work not on bits but qubits which are used to compute multidimensional algorithms. These computers work on temperatures around a hundredth of a kelvin above absolute zero. At this temperature the electrons move freely and form cooper pairs which can pass charges through insulators through the phenomenon of Quantum Tunnelling. A qubit can place the information it holds into state of superposition and so a set of qubits with each of its superposition can create a multidimensional complex space to solve complex problems. It is also found that the qubits show Quantum Entanglement, that is, when one qubit is changed, the other has impact on it. Now when these entangled qubits which show superposition are brought together, the probabilities of being in each state interferes constructively or destructively, therefore the constructive probabilities come out as the answer for the complex problems. But why do we require such complex computing systems? Quantum computers can simulate a complete environment. Therefore we can find the outcomes of atomic interaction, years of evolution just by a simulation almost like a free world video game where we are the gods. They are also used to find atomic structure of new polymers. The problem arises when it comes to encryption. Since these computers are so powerful they can pretty much break the modern day RSA encryption. But for that we need around a billion qubits and we are at only around five hundred. Soon enough the future of computers and technology will change when everyone would have quantum computers with encryption of quantum level.

CYBERSECURITY: PROTECTING THE DIGITAL FRONTIER



Prerna Jha
CSE 2022-26



Replacing a bad tube meant checking among ENIAC's 19,000 possibilities.

Cybersecurity has always been a cat-and-mouse game, but the mice keep getting bigger and are becoming increasingly harder to hunt. In our increasingly digital world, the importance of cybersecurity cannot be overstated. As technology continues to advance, so do the threats that target our digital assets and sensitive information.

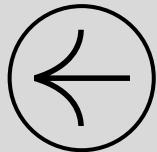
Cybersecurity is paramount in this digital era. This practice involves safeguarding computer systems, networks, and data from theft, damage, or unauthorized access. It serves as a digital security system, employing various strategies and technologies to protect our online realm.

Key cybersecurity elements include:

1. Firewalls and Intrusion Detection Systems: Digital sentinels monitor network traffic, allowing legitimate data to pass while blocking suspicious activities.
2. Encryption: This process converts data into code, preventing unauthorized access and ensuring intercepted data remains unreadable.

3. Security Software: Antivirus programs and malware scanners detect and eliminate malicious software, safeguarding systems from viruses and Trojans.

4. Authentication Methods: Passwords, biometrics, and two-factor authentication ensure only authorized individuals access systems.



“If you spend more on coffee than on IT security, you will be hacked”

-Richard Clarke

Hex dump of the Brain virus, generally regarded as the first computer virus for the IBM Personal Computer (IBM PC) and compatibles

Despite assuming cyber-savviness, many fall victim to online scams. In 2022, Indians have fallen victim to scams losing millions of rupees, wreaking havoc by destroying personal information, depleting finances, compromising identities, and jeopardizing livelihoods. The good news is that individuals and organizations can bolster their cybersecurity by following mentioned ways in their digital life.

- Despite assuming cyber-savviness, many fall victim to online scams. In 2022, Indians have fallen victim to scams losing millions of rupees, wreaking havoc by destroying personal information, depleting finances, compromising identities, and jeopardizing livelihoods. The good news is that individuals and organizations can bolster their cybersecurity by following mentioned ways in their digital life.

 - Regular Updates and Patching: Keep software, operating systems, and security solutions up to date to address vulnerabilities.
 - Education and Training: Train individuals to recognize phishing attempts and social engineering tactics.
 - Strong Passwords and Multi-Factor Authentication: Encourage complex, unique passwords and enable multi-factor authentication.
 - Backup Data: Regularly backup important data to ensure that, in the event of a ransomware attack or data breach, you can recover your information.
 - Network Security: Implement robust firewall and intrusion detection systems, and segment networks to limit the spread of potential threats.
 - Incident Response Plan: Develop and test an incident response plan to mitigate the impact of cyber incidents when they occur.

Cybersecurity is critical in our modern society as technology advances, shaping the evolving threat landscape. To protect our digital assets, we must stay vigilant, educate ourselves, and employ the latest cybersecurity strategies. By doing so, we can build a robust defense against the ever-present dangers lurking in the digital world.



The MacMag virus 'Universal Peace', as displayed on a Mac in March 1988



AI ODYSSEY

ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, AND DEEP LEARNING: THE PROSPECTS OF INTELLIGENT TECHNOLOGY

Artificial Intelligence (AI), Machine Learning (ML), and Deep Learning (DL) are three technological advancements that are redefining our interactions with digital media. These sectors are leading the way in innovation and have experienced rapid growth, having a huge impact on a variety of industries. In this article, we will explore the concepts of AI, ML, and DL and their roles in shaping the future of technology.

The objective of the large branch of computer science known as artificial intelligence is to build intelligent machines that can mimic human cognitive abilities. AI aims to create machines with perception, reasoning,

learning, and decision-making abilities. Simple rule-based programs to intricate neural networks that imitate human thought processes are examples of these systems.

Machine Learning is a subset of AI that is concerned with creating algorithms that let computers learn from data and get better over time. ML models have the ability to automatically adapt and improve their predictions or behaviour based on the data they are exposed to, in contrast to traditional programming, where humans manually train a computer. Because of this, ML is very helpful for tasks like data analysis, pattern identification, and prediction.

Deep Learning is a branch of machine learning that models and resolves complicated issues using artificial neural networks. These networks are made up of layers of connected nodes and were modelled after the architecture of the human brain. Deep Learning has become more well-known because of its amazing capacity to analyse enormous volumes of data and identify complex patterns. Particularly effective applications of it include natural language processing, autonomous systems, and picture and audio recognition.

- **Natural Language Processing (NLP):** Chatbots and virtual assistants, among other AI-driven NLP algorithms, have completely changed customer service and communication. The ability of these technologies to comprehend and produce human language is growing.

- **Computer Vision:** AI, ML, and DL have enabled computers to "see" and interpret images and videos. This is essential for industries like healthcare, where diagnosis is aided by medical picture analysis, and for autonomous cars, which need to understand and react to changing road conditions.

- **Recommendation systems:** AI algorithms employ machine learning (ML) approaches to examine user behaviour and preferences, providing tailored suggestions for social media, e-commerce, and multimedia streaming.

As much promise as AI, ML, and deep learning have, they also present certain difficulties.

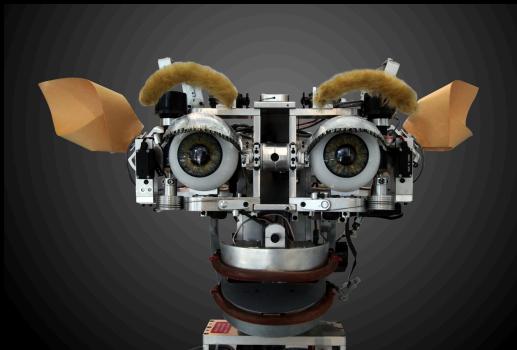
- **Data Privacy:** Data security and privacy are of utmost importance given

- these technologies enormous capacity for processing data. It is essential to make sure that data is handled responsibly.

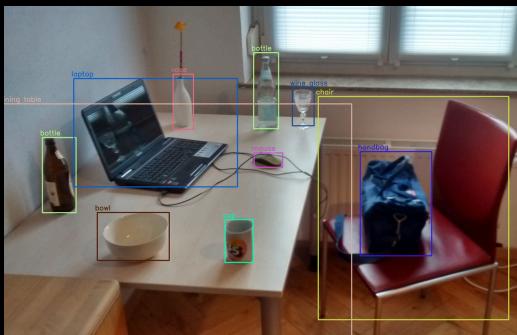
- **Ethical Concerns:** AI has brought up ethical concerns, particularly in light of the possibility of job displacement and autonomous systems. AI's ethical ramifications must be considered by society, and rules for its responsible development and application must be established.

At the vanguard of technological advancement, artificial intelligence (AI), machine learning (ML), and deep learning provide groundbreaking solutions in a variety of fields.

These technologies have the power to completely change industries by improving the predictability, efficiency, and personalization of operations.



Kismet, a robot head which was made in the 1990s; a machine that can recognize and simulate emotions



Objects detected with OpenCV's Deep Neural Network module (dnn) by using a YOLOv3 model

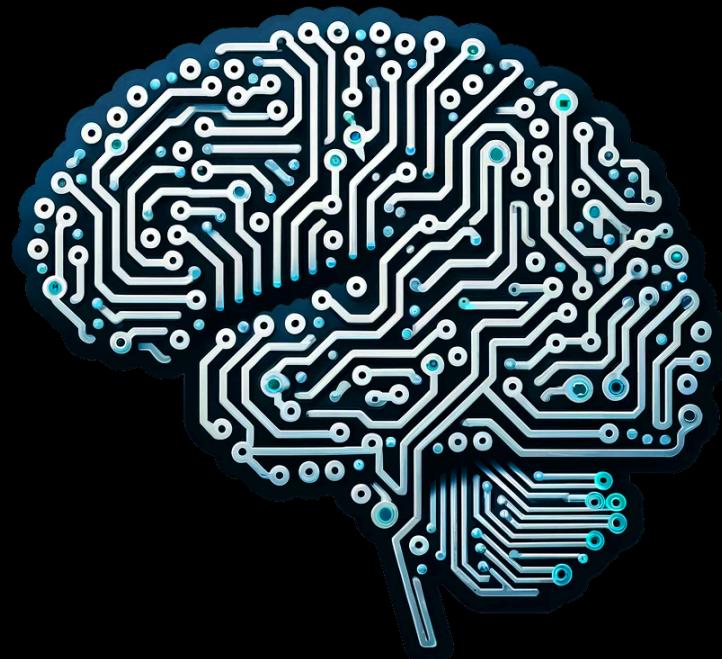


Image generated by DALL-E 3

HOW TO REMOVE BLOATWARE FROM YOUR ANDROID PHONE

Smartphone Manufacturers often partner with other brands and companies to pre-install their apps on their devices, aka, Bloatware, and these apps needlessly clutter your app drawer and may even send obtrusive notifications or sometimes even push ads on your device. What makes it even worse is that you can't easily uninstall this bloatware most of the time, which can lead to frustration.

But there is a way to remove the bloatware from your device, with the help of a PC/Laptop, and using ADB[Android Debug Bridge], in the steps given below:

Step 1

In your PC, Download SDK Platform Tools from the official Android Developers, <https://developer.android.com/tools/releasess/platform-tools>

Step 2

Once Downloaded, extract the Platform tool files.

Step 3

In your phone settings, find your device's build number in the "About Phone" section and tap on it 7 times, which enables Developer Option in your settings.

Step 4

In the Developer Options, scroll to find "USB Debugging", and enable it.

Step 5

Connect your phone to your PC/Laptop via a cable that can transfer data (not only charging).

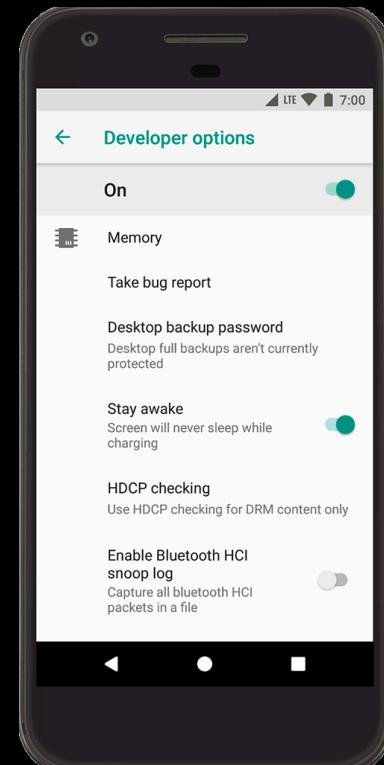
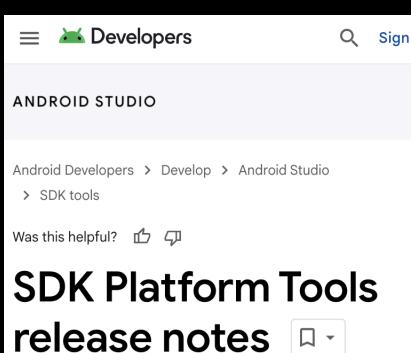
Step 6

Open the platform tools folder and in the command line type "cmd" and hit enter, which opens up the command prompt.

Step 7

Type "adb devices" and hit enter.

adb devices

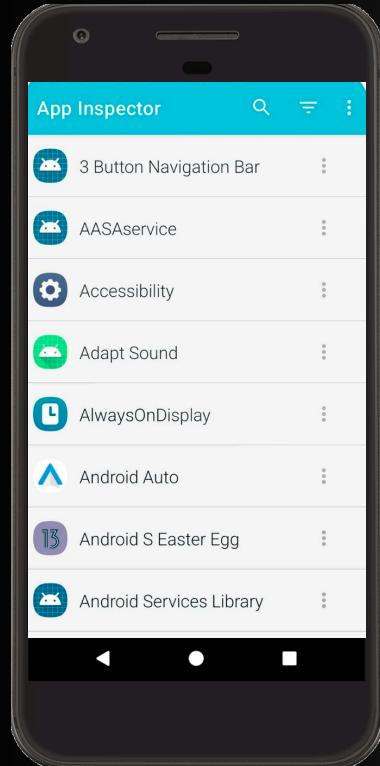




NOTE: Keep in mind, this method can uninstall any application in your device, so be very careful about what you uninstall and the consequences it may have. It is advisable to not mess with Core System Apps such as Dialer, Camera, etc.

Step 8

A prompt will open in your phone automatically, which you will have to accept.



Step 9

Download a light app called “App Inspector” to see the app package names of every app in your device.

Step 10

Type “adb shell” in the command prompt in your PC and write this command with the app package name you want to uninstall:
pm uninstall --user 0 PackageName

Step 11

Note that PackageName needs to be replaced with the full package name, without any "" or <>.

```
pm uninstall --user 0 PackageName
```

```
pm install-existing PackageName
```

Step 12

After writing this command line and the app package name, hit enter.

Step 13

If the line “Success” shows up, you’re done! Even if you want to re-install any previously deleted app, you can use the command:
pm install-existing PackageName

Step 14

To cleanup, end the “adb32.exe” in the task manager, and delete the platform tools.

MOBILE APP DEVELOPMENT

THE BEST WAY TO MAKE MOBILE APPS IN 2023

Mobile phones are the one piece of technology on which we spend the majority of our waking hours. And there are apps available for almost every conceivable need. But have you ever wondered how these mobile apps are made?

In this blog post, we'll dive deep into the world of mobile app development and learn how to make your own mobile apps. We'll also discuss the best ways to make mobile apps in 2023.

Mobile apps are broadly divided into two categories:

1. Native Apps
2. Cross-platform apps

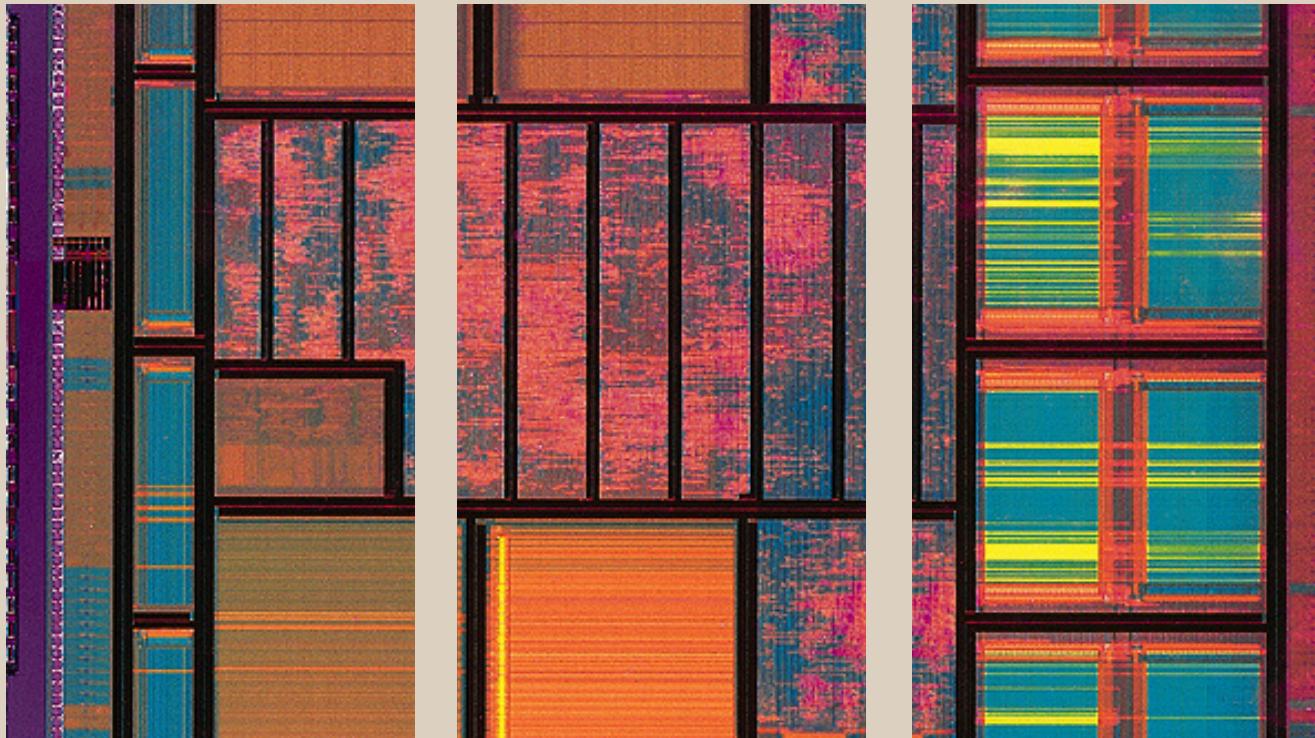
Native applications

These mobile applications are created especially for certain operating systems, such as iOS or Android. Therefore, an Android app can only be used within the Android environment. And for the same reason, we cannot run mobile applications on desktops or laptops because those devices lack the necessary infrastructure.

Originally, Java was used to create native Android apps, but Kotlin has since supplanted Java as the main language for creating Android apps. Kotlin was designated as the official language for Android apps by Google, the company that created the Android OS itself. Additionally, native Android development is well-liked and widely used in the industry thanks to the Jetpack Compose feature for creating seamless user interfaces.

Native iOS apps are best built using Swift, the programming language created by Apple to build apps for all their operating systems, including iOS, iPadOS, macOS, TVOS, and watchOS. As these apps can only be created in the iOS environment, which requires Apple devices, creating apps for iOS as a beginner may be challenging.





A VLSI integrated-circuit die

You might be asking yourself, "What if I want to create apps that serve both types of users simultaneously—apps for both Android and iOS?" Cross-platform applications are used for that purpose.

Cross-platform apps

As the name implies, once developed, these apps are simple to run across various operating systems. A cross-platform app allows for the sharing of some, if not all, of the source code between platforms like Android and iOS. Developers only need to code mobile assets once as a result. These assets won't need to be re-coded for each different platform because they will function flawlessly on all of them.

Many languages and frameworks can be used to create cross-platform mobile applications, but some of the most popular ones are:

Flutter: Flutter is an open-source, cross-platform framework. Created by Google, Flutter uses the Dart programming language. It is suitable for building many kinds of cross-platform apps that look native on multiple mobile platforms.

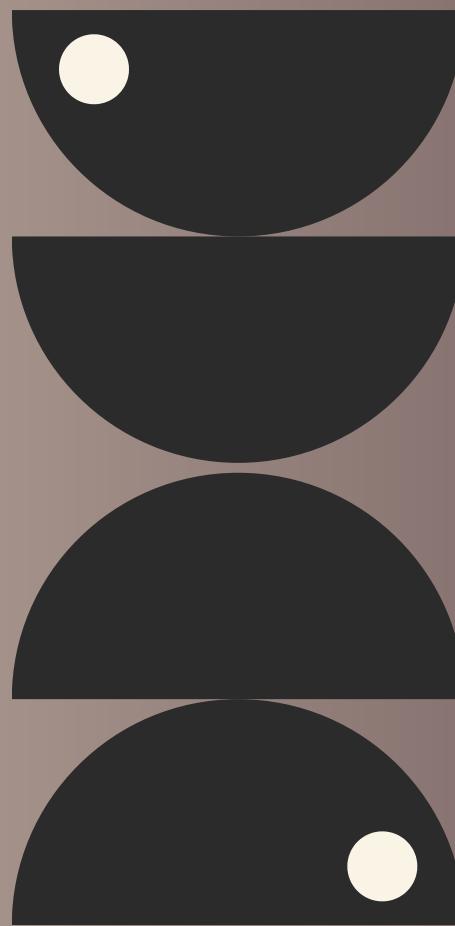
React Native: Introduced by Facebook, React Native is suitable for building both hybrid and cross-platform apps. It is based on the React JavaScript library and supports multiple languages, including Java, Swift, and C.

Kotlin Multiplatform Mobile: Kotlin Multiplatform Mobile is an SDK developed by JetBrains for creating Android and iOS applications. It allows you to share common code between the two platforms and write platform-specific code only when it's necessary, for example, when you

need to build native UI components or when you are working with platform-specific APIs.

Now you might be thinking, Why are we still using native development when cross-platform languages and frameworks exist?

Efficiency is the main reason to this problem. Native apps are significantly more optimized and memory-efficient in every way possible because they are only created for specific operating systems. Native apps are more optimized, provide a better user experience, and can utilize all of the features and capabilities of the device.



That said, advancements in development frameworks and technologies are assisting in resolving these problems with cross-platform applications. Cross- platform applications like Google Pay, Reflectly, and many others demonstrate that they are reliable as well. In the near future, we might be using only cross- platform apps everywhere. Now, as a beginner, you might be perplexed about where to learn these things and how to begin your mobile app development journey.

Although there are many different ways to create mobile apps, their core concepts remain constant. You will learn these fundamentals whether you choose the native or cross-development approach. So, picking any of the routes is entirely up to the individual. One may prefer native apps because they are more device-optimized, or one may prefer cross-platform apps because they can serve multiple audiences simultaneously. Your decision is yours. It is more crucial to start your educational journey with some of the top tutorials and documentation offered by these language creators and maintainers.

Native Android Development: <https://developer.android.com>

Flutter Cross-Platform Development: <https://flutter.dev>

Native iOS Development: <https://developer.apple.com/swift/>

Blockchain *prophecy*



DEEP DIVING INTO SEI NETWORK!

INTRODUCTION

Decentralized Exchanges (DEXs) sometimes face challenges related to being Decentralized, handling a large number of transactions, and having enough money available for trading. Sei Network is a new solution that aims to tackle these problems, especially the ones related to handling a large number of Transactions.

Sei also wants to create more chances for trading apps to grow successfully while still following important principles like being Decentralized and using money efficiently. So, how does Sei Network deal with these challenges? In this article, we'll explore Sei Network and how it solves issues in the DeFi (Decentralized Finance) world.

WHAT IS SEI NETWORK?

Sei Network is a Specialized Layer 1 Blockchain Platform, tailored for Trading applications, focusing on Scalability, Security, and Efficiency. It's designed to offer unique benefits for Decentralized Exchanges. But, the Sei network still has its disadvantages. Sei Network is emerging as a significant player in the Blockchain Space. But what is Sei Network exactly?

Sei Network is an Open-Source Layer 1 blockchain specialized for trading, focusing on optimizing its infrastructure to support a wide variety of trading applications.

In essence, Sei Network aims to provide a Highly Optimized, Efficient, and Scalable

Blockchain solution specifically designed for Trading applications, setting it apart from General-Purpose L1 Blockchains, while maintaining an Efficient Blockchain architecture.

Sei is the fastest Cosmos chain to finality because it was the first Layer 1 (L1) designed specifically for Trading, Optimizing each stack layer to offer exchanges an unfair edge.



| Bitcoin | Ethereum | Solana | Sei |
|---|---|---|--|
| Transactional Throughput 10 tps | Transactional Throughput 20 tps | Transactional Throughput 10,000 tps | Transactional Throughput 20,000 ops |
| Transactional Finality 60 min | Transactional Finality 6 mins | Transactional Finality ~2.5 sec | Transactional Finality 380 ms |
| Frontrunning prevention ✗ None | Frontrunning prevention ✗ None | Frontrunning prevention ✗ None | Frontrunning prevention ✓ FBA |
| Processing style Sequential | Processing style Sequential | Processing style Parallelized | Processing style Parallelized |
| Sybil Protection Proof of Work | Sybil Protection Proof of Stake | Sybil Protection Proof of Stake | Sybil Protection Proof of Stake |

Decentralized exchanges, or DEXs, are dealing with a tricky challenge called the Trading Trilemma. This means they are trying to find the right balance between being Decentralized, handling a lot of Transactions, and using money efficiently all at once. Sei is tackling these problems head-on by creating the first Layer 1 Blockchain made specifically for trading. In simple terms, every part of Sei is set up to give the best possible conditions for trading digital assets.

BUT WAIT, HOW DOES SEI NETWORK WORK?

But wait, How Does Sei Network Work?

Sei has carefully chosen a particular set of tradeoffs that make Layer 1 the ideal environment to scale with the demands of Decentralized Exchanges.

Over other blockchains, the Sei Network has a lot of advantages, such as:

- Fast and high throughput
- Liquidity
- Massively scalable
- An emphasis on the order book
- Highly secure
- A complete trading solution

The Sei Network's basic setup involves something called Centralized Order Books (CLOB). These are managed by various Decentralized Exchanges (DEXs) that have limited order books. This shift is good news for more advanced Decentralized Finance

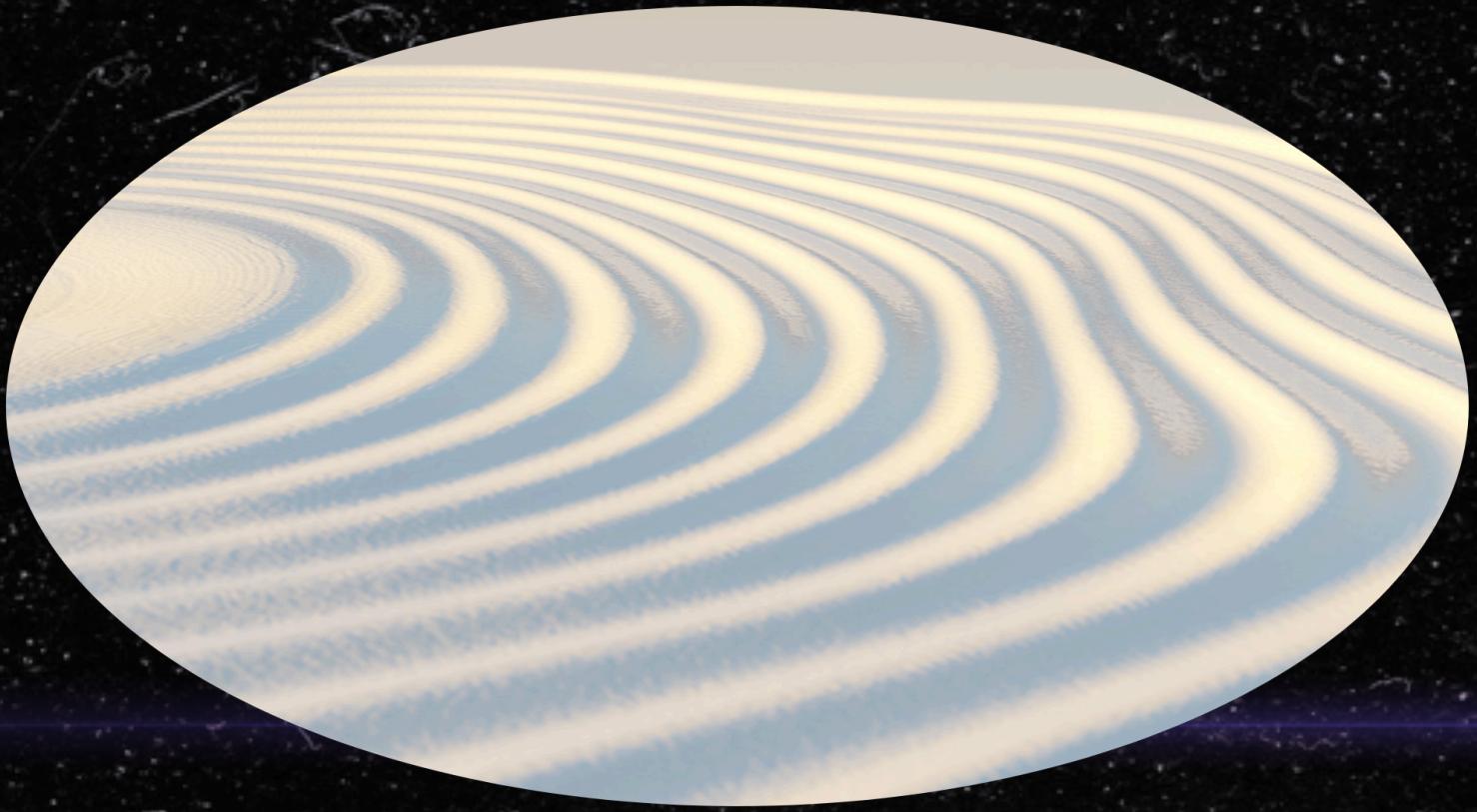
(DeFi) systems. The orders in these Centralized Order Books get matched up when each block finishes, thanks to native orders for all things related to CLOB. This new technique allows Sei Network to work with a variety of applications.

Sei also supports something called CosmWasm smart contracts, and it can include other IBC networks. The good thing is, the Cosmos SDK can connect to CosmWasm easily because it's written like a building block. So, if someone is making a blockchain using the Cosmos SDK, they can add support for CosmWasm smart contracts without changing what's already there.

The Sei Network is a special kind of blockchain (L1) that has a built-in order book. This order book makes it easy for smart contracts (like self-executing contracts with the rules of the agreement) to use

a shared pool of money. Sei Network works well with applications from Ethereum and Cosmos because it supports EVM and Cosmwasm.

It offers special features and easy-to-use interfaces to partners, giving them a stable environment and super-fast transactions. Anyone can create a DeFi application (related to decentralized finance) that uses Sei's shared money and the benefits of the whole system. People, traders, and developers can become partners with Sei and get access to shared money and decentralized financial systems.



TALKING ABOUT SOME ON-CHAIN METRICS

Sei Network, with its unique positioning in the blockchain space, offers several notable features tailored for decentralized exchanges and trading platforms:

- A trading-specific blockchain: Unlike other layer 1 blockchain with multiple use cases, Sei is specifically designed to facilitate high-activity decentralized trading.
- High speed: Sei has a high transaction speed. It is measured by Time to Finality (TFF), where Sei is 2x faster than Sui and about 1.5x faster than Aptos.
- Transaction throughput: Transaction throughput is the rate at which valid transactions are approved to enter the blockchain within a given period. For comparison, Solana can process 10,000 transactions per second (TPS). In contrast, Sei can process 20,000 orders per second (OPS).
- High security: Sei Network uses the Tendermint Core consensus mechanism and focuses on avoiding MEV risk through Frequent Batch Auctioning (FBA). Sei is creating a new standard in the DeFi ecosystem by prioritizing security, bandwidth, and reliability.
- Enhanced Liquidity and Scalability: The network emphasizes liquidity to ensure smooth operation of trading platforms and is built for significant scalability to cater to the growing DeFi sector.
- Innovative Consensus Mechanism: The network employs unique consensus mechanisms, like the Twin-Turbo Consensus, to enhance throughput and reduce latency, benefiting order book-based exchanges.
- CosmWasm Smart Contracts Compatibility: It supports CosmWasm smart contracts, enhancing its versatility and allowing for easy integration with other Inter-Blockchain Communication (IBC) networks.

WHAT'S SEI TOKEN?

The SEI token is the primary cryptocurrency of the Sei Network, a blockchain designed for trading applications. It serves multiple roles including governance, payment of transaction fees, and incentivizing network participation.

| The Total Supply Of SEI Tokens is 10,000,000,000 tokens.

Project Report



BLOCKCHAIN-BASED SECURE STORAGE SYSTEM AND SMART POLICING

The project aimed to design a blockchain-based secure storage system for legal bodies, including court staff, police personnel, forensic staff, lawyers, accused, and victims, to store and share information securely. Each user is provided with a secure key to log in, ensuring only authorized access.

SYSTEM OVERVIEW

Blockchain Secure Storage: Naib court updates case data in the blockchain for new cases. For pending cases, an OCR system is implemented. The Naib court clicks pictures of case file pages, and a gist is provided, reducing a large document to a concise summary using Azure OCR.

Access Control List: Implemented to prevent DDoS attacks and ensure system security.

Smart Real-Time Maps: Displays various crimes with different colors based on the crime type and number, providing a visual representation for better understanding and analysis.

Police Emergency Call Response Monitoring: Monitors the response time for emergency calls in various districts, enabling efficient policing and overcoming obstacles in specific districts.

Anonymous Tip Sharing Platform: Allows the public to share useful information with the police anonymously. Authentication is done via OTP to prevent abuse or false information sharing.

Reminder System: Sends reminders to all legal bodies two days before a hearing, ensuring their presence in court.

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ADDITIONAL FEATURES

Data Encryption: All data stored in the blockchain is encrypted to ensure privacy and security.

User-Friendly Interface: The system is designed with a user-friendly interface to ensure ease of use for all stakeholders.

Audit Trail: A detailed audit trail is maintained for all actions taken within the system for accountability and transparency.

CONCLUSION

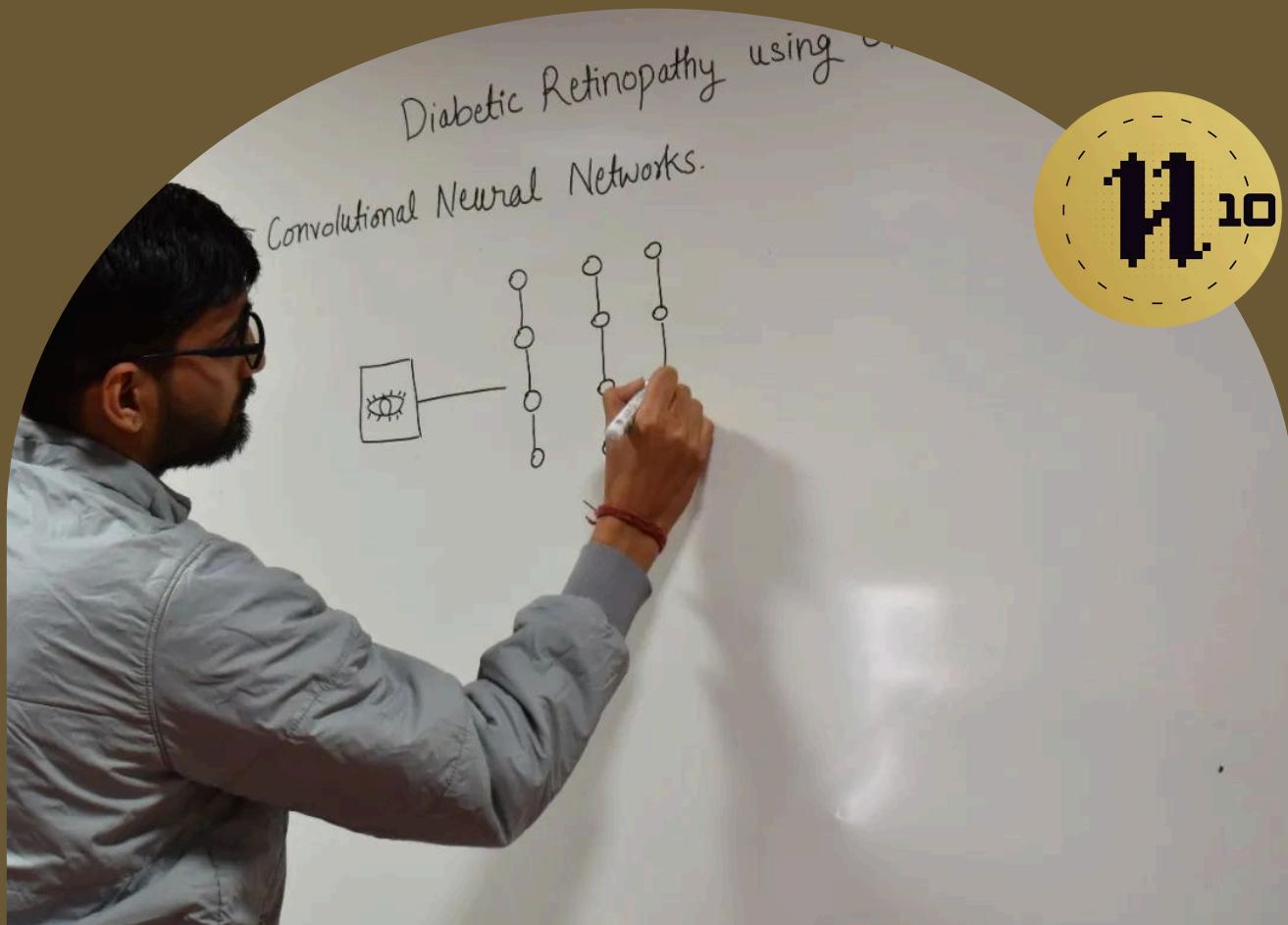
The project successfully implemented a blockchain-based secure storage system for legal bodies and integrated various features for smart policing.

The system enhances security, efficiency, and transparency in the legal and policing processes.

It won the 2nd position in the hackathon, showcasing its innovation and effectiveness.

FUTURE ENHANCEMENTS

- Integration with AI for crime prediction and prevention.
- Expansion to include more legal entities and jurisdictions.
- Implementation of advanced analytics for deeper insights into crime patterns.



HACKTOBERFEST

This annual event, hosted by DigitalOcean, beckons developers and enthusiasts alike to give back to the vibrant world of open source throughout October.

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Over the past decade, thousands have participated, fostering a spirit of collaboration, learning, and appreciation for open source. This year marked the 10th anniversary of Hacktoberfest, and I consider it a great opportunity to have been a part of it.

To complete Hacktoberfest'23, participants were required to submit four valid pull requests (PRs) to a recognized Hacktoberfest repository, with each PR being accepted by the project maintainer.

My contributions: The initial and most significant challenge faced by everyone, including me, was finding the appropriate repository to contribute to. There were several repositories under the label ‘hacktoberfest’ but in reality, they were excluded from Hacktoberfest because the repository did not follow the Hacktoberfest guidelines. Hence, finding the correct repository was a very crucial step. Given my familiarity with front-end languages such as HTML, CSS, and JavaScript, I began searching for repositories centered around these languages.

The first repository I contributed to was the official website of Codess Café, a community dedicated to empowering women in the field of technology. Codess Café is a women-centered community with the vision of providing women in tech with the necessary support and mentorship to seize the opportunities they deserve. Contributing to this repository was an incredible experience.

Further, repositories maintained by IIIT Ranchi seniors beckoned, adding layers to my experience. Notably, I delved into a music website, fixing its navbar—a small yet impactful stride. In the world of open source, being patient is important. Waiting for maintainers to review pull requests, and navigating unanswered issues—it’s a testament to the endurance that contributes to success. Hacktoberfest is not just about making four pull requests but about persisting in the face of uncertainty.

Key Takeaways:

Skill Testing Ground:

Hacktoberfest'23 wasn't just about coding; it was a real-world test for skills, both technical and soft ones. The experience gained from making contributions, collaborating with diverse teams, and addressing real-world issues has honed my development skills.

Network Building: It's a great platform for connecting with like-minded individuals who provide valuable insights and guidance.

Communication

Matters:

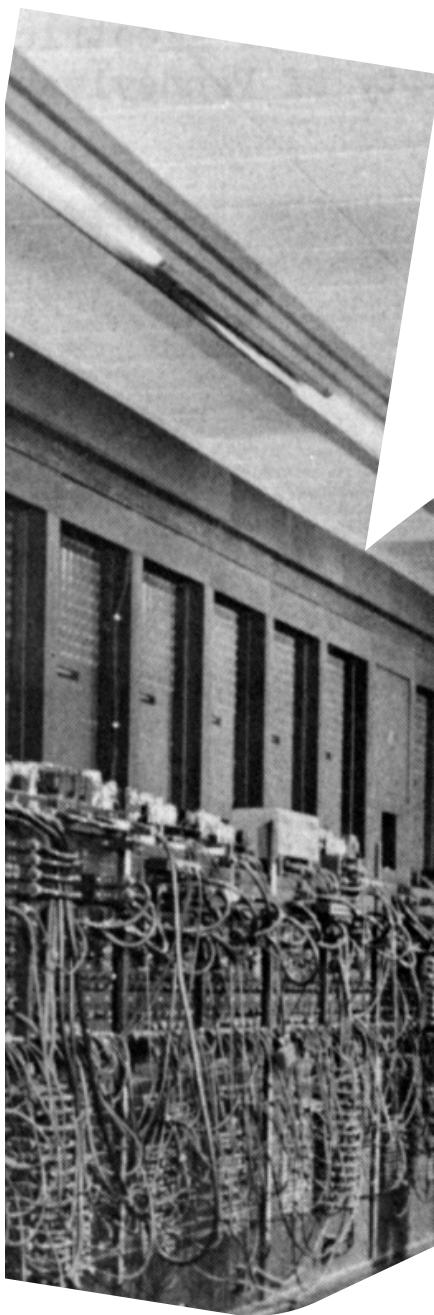
Effective communication is vital in the collaborative nature of open-source development. It's a key skill that is necessary for any contribution.

Learning Galore: The journey was a rich tapestry of learning opportunities, in which I delved into various technologies, frameworks, and best practices of the tech industry.



event organized by nameSpace community

"At each increase of *knowledge*, as well as on the *contrivance* of every new tool, *human labour becomes abridged*"



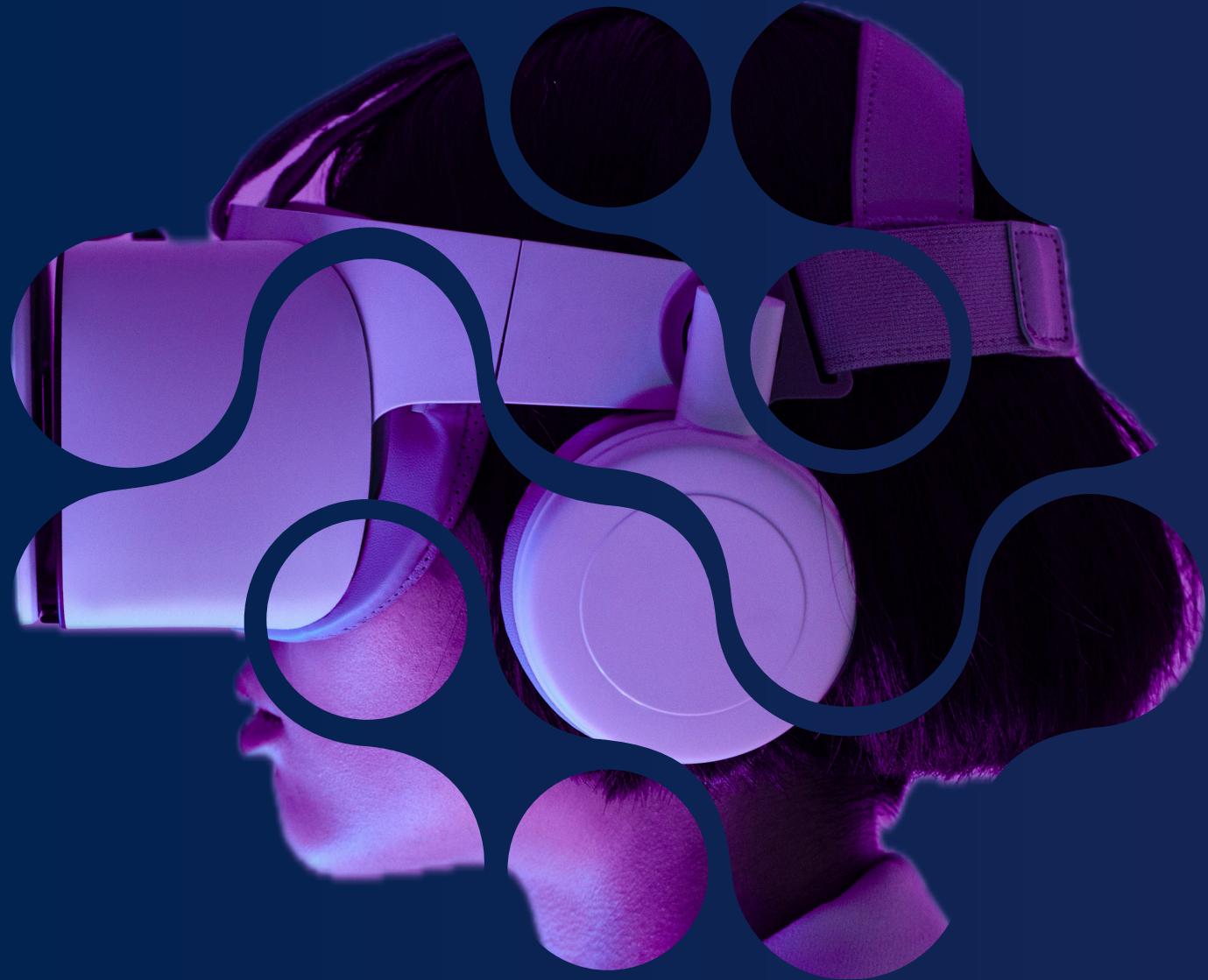
Electronic Numerical Integrator And Computer in Philadelphia, Pennsylvania



CHARLES BABBAGE

"father of the computer"

Babbage originated the concept of a digital programmable computer.



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