

Journal DAO

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Abstract—ownership is The most important thing about web 3.0. Using blockchain technology, it is possible to make a paper objectively belong to its author. In the era of centralization, "trust" in an organization is required to complete cooperation, whether it is mutual or intermediary. But decentralized smart contracts allow all collaboration to exist objectively without the need for "trust". Once a paper is published successfully, it is uploaded to the chain using smart contracts. Later, the paper nominally belongs to the author, but actually exists in the database of a website, and once value is created it basically belongs to that website as well. In the framework of decentralized science, the paper no longer exists in the database of a website, but the website goes to map this paper. Each paper creates a decentralized organization that gives a token to the author, the journal, and other interested parties, and once the paper has created value, it is distributed to all holders according to the token.

Index Terms—DAO, smart contract, decentralized autonomous organizations, decentralized funding, decentralized science, DeSci, metaverses, parallel DeSci, parallel intelligence, Web3

I. INTRODUCTION

BLOCKCHAIN is a distributed ledger technology that works by using a decentralized network of computers to maintain a secure, tamper-proof record of transactions. The technology is often associated with cryptocurrencies like Bitcoin, but it has a wide range of potential applications beyond digital currencies.

At a high level, the blockchain works by creating a chain of blocks, with each block containing a set of transactions. Each block contains a unique code called a "hash," which is generated using complex mathematical algorithms. The hash of each block is also included in the next block, creating a chain of linked blocks, hence the name "blockchain".

The process of adding a new block to the chain is called "mining," and it involves solving a complex cryptographic puzzle. Miners use powerful computers to perform these calculations and compete to be the first to solve the puzzle. Once a miner solves the puzzle, they broadcast the solution to the network, and the block is added to the chain.

Once a block is added to the blockchain, it is extremely difficult to alter. Changing the contents of one block would require changing the hash of that block, which would in turn require recalculating the hash of every subsequent block in the chain. This makes the blockchain a secure and tamper-proof record of transactions.

One key advantage of the blockchain is that it is a decentralized system. There is no central authority that controls the network or validates transactions. Instead, transactions are validated by the network of nodes that maintain the

blockchain. This makes the system more resistant to hacking and fraud.

Overall, the blockchain is a powerful technology that has the potential to transform a wide range of industries by enabling secure and transparent record-keeping and facilitating decentralized collaboration and decision-making.

A smart contract is a self-executing contract that is coded on a blockchain. It is essentially a computer program that automatically enforces the rules and conditions of a contract between two or more parties.

Smart contracts can be used to automate many different types of transactions, such as payments, property transfers, and supply chain management. They operate using the blockchain's decentralized network of computers, which ensures that the contract is executed in a secure and tamper-proof manner.

One of the key advantages of smart contracts is that they can reduce the need for intermediaries, such as lawyers or banks, to oversee transactions. This can make transactions faster, cheaper, and more efficient, while also reducing the risk of fraud or error.

Smart contracts are typically written in programming languages that are specifically designed for the blockchain, such as Solidity for the Ethereum blockchain. Once a smart contract is deployed to the blockchain, it is publicly visible and cannot be modified without the consensus of the network.

Overall, smart contracts are an important innovation in the field of blockchain technology, with the potential to transform many industries by enabling secure and automated transactions that are executed without the need for intermediaries.

A decentralized autonomous organization (DAO) is a type of organization that operates without a central authority or hierarchy. DAOs are governed by a set of rules encoded in smart contracts that run on a blockchain network. DAOs allow participants to collaborate and coordinate on common goals, such as funding projects, managing assets, or providing services. DAOs are transparent, democratic, and resilient to censorship or corruption.

DAOs have several advantages over traditional organizations, such as:

- Lower costs: DAOs eliminate the need for intermediaries, lawyers, accountants, or managers, reducing the overhead and bureaucracy involved in running an organization.
- Higher efficiency: DAOs enable faster and more accurate decision-making, as well as automated execution of tasks and transactions.
- Greater innovation: DAOs foster a culture of experimentation and creativity, as anyone can propose and contribute to new ideas or initiatives.
- Enhanced security: DAOs are protected by cryptography and consensus mechanisms, making them immune to

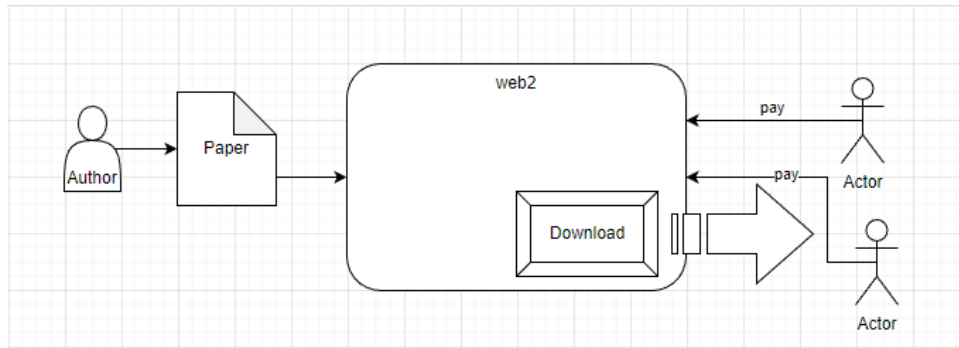


Fig. 1. Journal Web2.0

hacking, fraud, or manipulation.

- Increased inclusivity: DAOs are open and accessible to anyone who shares the vision and values of the organization, regardless of their location, background, or status.

DAOs are not without challenges, however. Some of the main challenges include:

- Legal uncertainty: DAOs operate in a gray area of the law, as they do not fit into existing legal frameworks or jurisdictions. This creates risks and liabilities for the participants and the beneficiaries of the DAO.
- Ethical dilemmas: DAOs may face ethical issues or conflicts of interest, as they may not align with the moral values or social norms of the wider society.
- Technical complexity: DAOs rely on complex and experimental technologies, such as blockchain and smart contracts, which may have bugs, vulnerabilities, or unforeseen consequences.
- Governance issues: DAOs may struggle to achieve consensus, resolve disputes, or adapt to changing circumstances, as they lack a clear leadership or authority structure.

II. DAO TO JOURNAL

The DAO, or Decentralized Autonomous Organization, was a decentralized venture capital fund that operated on the Ethereum blockchain in 2016. It was created as a way to enable a group of individuals to pool their resources and invest in new projects without the need for a central authority or intermediary.

The DAO was essentially a smart contract on the Ethereum blockchain that contained a set of rules for how the organization would operate. Members could buy tokens that would give them voting rights to make decisions about which projects to invest in. Once a project was selected, the funds were automatically sent to the project's creators, and the project would be added to the DAO's portfolio.

However, the DAO was also susceptible to vulnerabilities, and in June 2016, a hacker exploited a vulnerability in the smart contract, stealing around "\$"50 million worth of Ethereum. This led to a contentious debate within the Ethereum community about how to handle the situation, and ultimately, a hard fork of the Ethereum blockchain was implemented to restore the stolen funds to their original owners.

Despite the controversy surrounding the DAO, it remains an important milestone in the development of blockchain technology, demonstrating the potential of decentralized autonomous organizations to enable new forms of collaboration and investment. Since then, there have been numerous other projects that have built on the DAO's ideas and sought to improve upon its flaws.

Since the DAO incident in 2016, the development of decentralized autonomous organizations (DAOs) has continued to evolve and expand, with new projects and platforms emerging to address the limitations of earlier attempts.

One of the most significant developments in recent years has been the emergence of DAO platforms that offer a more user-friendly and accessible way to create and manage decentralized organizations. These platforms provide tools and templates for creating DAOs, as well as built-in features such as voting, proposal submission, and fund management.

Some of the popular DAO platforms that have emerged in recent years include Aragon, MolochDAO, Colony, and DAOstack. These platforms enable anyone to create and participate in a decentralized organization, with a range of potential use cases such as investment funds, decentralized communities, and decentralized governance.

Another notable development in the DAO space has been the integration of blockchain technology with other emerging technologies, such as non-fungible tokens (NFTs) and decentralized finance (DeFi). For example, some DAOs are exploring the use of NFTs as a way to represent membership or ownership in the organization, while others are using DeFi protocols to manage and distribute funds.

Overall, the development of DAOs continues to evolve and mature, with new ideas and innovations emerging all the time. As blockchain technology and decentralized systems become more mainstream, it is likely that we will see an increasing number of DAOs being created and used for a variety of purposes.

III. BLOCKCHAIN PAPER AND SMART CONTRACT JOURNAL

Blockchain is a distributed ledger technology that works by using a decentralized network of computers to maintain a secure, tamper-proof record of transactions. The technology is often associated with cryptocurrencies like Bitcoin, but it has a wide range of potential applications beyond digital currencies.

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IV. DAO TO DESCI

V. CONCLUSION

VI. THE DESIGN, INTENT, AND LIMITATIONS OF THE TEMPLATES

The templates are intended to **approximate the final look and page length of the articles/papers. They are NOT intended to be the final produced work that is displayed in print or on IEEEExplore®**. They will help to give the authors an approximation of the number of pages that will be in the final version. The structure of the L^AT_EX files, as designed, enable easy conversion to XML for the composition systems used by the IEEE. The XML files are used to produce the final print/IEEEExplore pdf and then converted to HTML for IEEEExplore.

VII. WHERE TO GET L^AT_EX HELP — USER GROUPS

The following online groups are helpful to beginning and experienced L^AT_EX users. A search through their archives can provide many answers to common questions.

<http://www.latex-community.org/>

<https://tex.stackexchange.com/>

VIII. OTHER RESOURCES

See [1]–[5] for resources on formatting math into text and additional help in working with L^AT_EX.

IX. TEXT

For some of the remainder of this sample we will use dummy text to fill out paragraphs rather than use live text that may violate a copyright.

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$$x = \sum_{i=0}^n 2iQ. \quad (1)$$

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X. SOME COMMON ELEMENTS

A. Sections and Subsections

Enumeration of section headings is desirable, but not required. When numbered, please be consistent throughout the article, that is, all headings and all levels of section headings in the article should be enumerated. Primary headings are designated with Roman numerals, secondary with capital letters, tertiary with Arabic numbers; and quaternary with lowercase letters. Reference and Acknowledgment headings are unlike all other section headings in text. They are never enumerated. They are simply primary headings without labels, regardless of whether the other headings in the article are enumerated.

B. Citations to the Bibliography

The coding for the citations is made with the L^AT_EX `\cite` command. This will display as: see [1].

For multiple citations code as follows: `\cite{ref1,ref2,ref3}` which will produce [1]–[3]. For reference ranges that are not consecutive code as `\cite{ref1,ref2,ref3,ref9}` which will produce [1]–[3], [9]

C. Lists

In this section, we will consider three types of lists: simple unnumbered, numbered, and bulleted. There have been many options added to IEEEtran to enhance the creation of lists. If your lists are more complex than those shown below, please refer to the original “IEEEtran_HOWTO.pdf” for additional options.

A plain unnumbered list:

bare_jrnl.tex
bare_conf.tex
bare_jrnl_compsoc.tex
bare_conf_compsoc.tex
bare_jrnl_comsoc.tex

A simple numbered list:

- 1) bare_jrnl.tex
- 2) bare_conf.tex
- 3) bare_jrnl_compsoc.tex
- 4) bare_conf_compsoc.tex
- 5) bare_jrnl_comsoc.tex

A simple bulleted list:

- bare_jrnl.tex
- bare_conf.tex
- bare_jrnl_compsoc.tex
- bare_conf_compsoc.tex
- bare_jrnl_comsoc.tex

D. Figures

Fig. 1 is an example of a floating figure using the `graphicx` package. Note that `\label` must occur AFTER (or within) `\caption`. For figures, `\caption` should occur after the `\includegraphics`.



Fig. 2. Simulation results for the network.

TABLE I
AN EXAMPLE OF A TABLE

One	Two
Three	Four

Fig. 2(a) and 2(b) is an example of a double column floating figure using two subfigures. (The `subfig.sty` package must be loaded for this to work.) The subfigure `\label` commands are set within each subfloat command, and the `\label` for the overall figure must come after `\caption`. `\hfil` is used as a separator to get equal spacing. The combined width of all the parts of the figure should do not exceed the text width or a line break will occur.

Note that often IEEE papers with multi-part figures do not place the labels within the image itself (using the optional argument to `\subfloat[]`), but instead will reference/describe all of them (a), (b), etc., within the main caption. Be aware that for `subfig.sty` to generate the (a), (b), etc., subfigure labels, the optional argument to `\subfloat` must be present. If a subcaption is not desired, leave its contents blank, e.g., `\subfloat[]`.

XI. TABLES

Note that, for IEEE-style tables, the `\caption` command should come BEFORE the table. Table captions use title case. Articles (a, an, the), coordinating conjunctions (and, but, for, or, nor), and most short prepositions are lowercase unless they are the first or last word. Table text will default to `\footnotesize` as the IEEE normally uses this smaller font for tables. The `\label` must come after `\caption` as always.

XII. ALGORITHMS

Algorithms should be numbered and include a short title. They are set off from the text with rules above and below the title and after the last line.



Fig. 3. Dae. Ad quatur autat ut porepel itemoles dolor autem fuga. Bus quia con nessunti as remo di quatus non perum que nimus. (a) Case I. (b) Case II.

Algorithm 1 Weighted Tanimoto ELM.

```

TRAIN( $\mathbf{X}\mathbf{T}$ )
  select randomly  $W \subset \mathbf{X}$ 
   $N_t \leftarrow |\{i : \mathbf{t}_i = \mathbf{t}\}|$  for  $\mathbf{t} = -1, +1$ 
   $B_i \leftarrow \sqrt{\text{MAX}(N_{-1}, N_{+1})/N_{t_i}}$  for  $i = 1, \dots, N$ 
   $\hat{\mathbf{H}} \leftarrow B \cdot (\mathbf{X}^T \mathbf{W}) / (\|\mathbf{X}\| + \|\mathbf{W}\| - \mathbf{X}^T \mathbf{W})$ 
   $\beta \leftarrow (I/C + \hat{\mathbf{H}}^T \hat{\mathbf{H}})^{-1} (\hat{\mathbf{H}}^T B \cdot \mathbf{T})$ 
  return  $\mathbf{W}, \beta$ 

PREDICT( $\mathbf{X}$ )
   $\mathbf{H} \leftarrow (\mathbf{X}^T \mathbf{W}) / (\|\mathbf{X}\| + \|\mathbf{W}\| - \mathbf{X}^T \mathbf{W})$ 
  return  $\text{SIGN}(\mathbf{H}\beta)$ 

```

Que sunt eum lam eos si dic to estist, culluptium quid qui nestrum nobis reiumquiatur minimus minctem. Ro moluptat fuga. Itatquiam ut laborpo rersped exceres vollandi repudaerem. Ulparci sunt, qui doluptaquis sumquia ndestiu sapient iorepella sunti veribus. Ro moluptat fuga. Itatquiam ut laborpo rersped exceres vollandi repudaerem.

XIII. MATHEMATICAL TYPOGRAPHY AND WHY IT MATTERS

Typographical conventions for mathematical formulas have been developed to **provide uniformity and clarity of presentation across mathematical texts**. This enables the readers of those texts to both understand the author's ideas and to grasp new concepts quickly. While software such as L^AT_EX and MathType[®] can produce aesthetically pleasing math when used properly, it is also very easy to misuse the software, potentially resulting in incorrect math display.

IEEE aims to provide authors with the proper guidance on mathematical typesetting style and assist them in writing the best possible article. As such, IEEE has assembled a set of examples of good and bad mathematical typesetting [1]–[5].

Further examples can be found at <http://journals.ieeeauthorcenter.ieee.org/wp-content/uploads/sites/7/IEEE-Math-Typesetting-Guide-for-Latex-Users.pdf>

A. Display Equations

The simple display equation example shown below uses the “equation” environment. To number the equations, use the \label macro to create an identifier for the equation. LaTeX will automatically number the equation for you.

$$x = \sum_{i=0}^n 2iQ. \quad (2)$$

is coded as follows:

```

\begin{equation}
\label{deqn_ex1}
x = \sum_{i=0}^n 2{i} Q.
\end{equation}

```

To reference this equation in the text use the \ref macro. Please see (2)

is coded as follows:

```
Please see (\ref{deqn_ex1})
```

B. Equation Numbering

Consecutive Numbering: Equations within an article are numbered consecutively from the beginning of the article to the end, i.e., (1), (2), (3), (4), (5), etc. Do not use roman numerals or section numbers for equation numbering.

Appendix Equations: The continuation of consecutively numbered equations is best in the Appendix, but numbering as (A1), (A2), etc., is permissible.

Hyphens and Periods: Hyphens and periods should not be used in equation numbers, i.e., use (1a) rather than (1-a) and (2a) rather than (2.a) for subequations. This should be consistent throughout the article.

C. Multi-Line Equations and Alignment

Here we show several examples of multi-line equations and proper alignments.

A single equation that must break over multiple lines due to length with no specific alignment.

The first line of this example

The second line of this example

The third line of this example (3)

is coded as:

```
\begin{multline}
\text{The first line of this example}\\
\text{The second line of this example}\\
\text{The third line of this example}
\end{multline}
```

A single equation with multiple lines aligned at the = signs

$$a = c + d \quad (4)$$

$$b = e + f \quad (5)$$

is coded as:

```
\begin{align}
a &= c+d \\
b &= e+f
\end{align}
```

The align environment can align on multiple points as shown in the following example:

$$x = y \quad X = Y \quad a = bc \quad (6)$$

$$x' = y' \quad X' = Y' \quad a' = bz \quad (7)$$

is coded as:

```
\begin{align}
x &= y & X &= Y & a &= bc \\
x' &= y' & X' &= Y' & a' &= bz
\end{align}
```

D. Subnumbering

The amsmath package provides a subequations environment to facilitate subnumbering. An example:

$$f = g \quad (8a)$$

$$f' = g' \quad (8b)$$

$$\mathcal{L}f = \mathcal{L}g \quad (8c)$$

is coded as:

```
\begin{subequations}\label{eq:2}
\begin{align}
f&=g \label{eq:2A}\\
f' &=g' \label{eq:2B}\\
\mathcal{L}f &= \mathcal{L}g \label{eq:2C}
\end{align}
\end{subequations}
```

E. Matrices

There are several useful matrix environments that can save you some keystrokes. See the example coding below and the output.

A simple matrix:

$$\begin{matrix} 0 & 1 \\ 1 & 0 \end{matrix} \quad (9)$$

is coded as:

```
\begin{equation}
\begin{matrix} 0 & 1 \\ 1 & 0 \end{matrix}
\end{equation}
```

A matrix with parenthesis

$$\begin{pmatrix} 0 & -i \\ i & 0 \end{pmatrix} \quad (10)$$

is coded as:

```
\begin{equation}
\begin{pmatrix} 0 & -i \\ i & 0 \end{pmatrix}
\end{equation}
```

A matrix with square brackets

$$\begin{bmatrix} 0 & -1 \\ 1 & 0 \end{bmatrix} \quad (11)$$

is coded as:

```
\begin{equation}
\begin{bmatrix} 0 & -1 \\ 1 & 0 \end{bmatrix}
\end{equation}
```

A matrix with curly braces

$$\begin{Bmatrix} 1 & 0 \\ 0 & -1 \end{Bmatrix} \quad (12)$$

is coded as:

```
\begin{equation}
\begin{Bmatrix} 1 & 0 \\ 0 & -1 \end{Bmatrix}
\end{equation}
```

A matrix with single verticals

$$\begin{vmatrix} a & b \\ c & d \end{vmatrix} \quad (13)$$

is coded as:

```
\begin{equation}
\begin{vmatrix} a & b \\ c & d \end{vmatrix}
\end{equation}
```

A matrix with double verticals

$$\left\| \begin{matrix} i & 0 \\ 0 & -i \end{matrix} \right\| \quad (14)$$

is coded as:

```
\begin{equation}
\begin{Vmatrix} i & 0 \\ 0 & -i \end{Vmatrix}
\end{equation}
```

F. Arrays

The array environment allows you some options for matrix-like equations. You will have to manually key the fences, but there are other options for alignment of the columns and for setting horizontal and vertical rules. The argument to array controls alignment and placement of vertical rules.

A simple array

$$\left(\begin{array}{cccc} a+b+c & uv & x-y & 27 \\ a+b & u+v & z & 134 \end{array} \right) \quad (15)$$

is coded as:

```
\begin{equation}
\left(
\begin{array}{cccc}
a+b+c & uv & x-y & 27 \\
a+b & u+v & z & 134
\end{array}
\right)
\end{equation}
```

A slight variation on this to better align the numbers in the last column

$$\left(\begin{array}{cccc} a+b+c & uv & x-y & 27 \\ a+b & u+v & z & 134 \end{array} \right) \quad (16)$$

is coded as:

```
\begin{equation}
\left(
\begin{array}{cccc}
a+b+c & uv & x-y & 27 \\
a+b & u+v & z & 134
\end{array}
\right)
\end{equation}
```

An array with vertical and horizontal rules

$$\left(\begin{array}{c|c|c|c} a+b+c & uv & x-y & 27 \\ \hline a+b & u+v & z & 134 \end{array} \right) \quad (17)$$

is coded as:

```
\begin{equation}
\left(
\begin{array}{c|c|c|c}
a+b+c & uv & x-y & 27 \\
\hline
a+b & u+v & z & 134
\end{array}
\right)
\end{equation}
```

Note the argument now has the pipe “|” included to indicate the placement of the vertical rules.

G. Cases Structures

Many times cases can be miscoded using the wrong environment, i.e., array. Using the cases environment will save keystrokes (from not having to type the \left\lbrace) and automatically provide the correct column alignment.

$$z_m(t) = \begin{cases} 1, & \text{if } \beta_m(t) \\ 0, & \text{otherwise.} \end{cases}$$

is coded as follows:

```
\begin{equation*}
\{z_m(t)\} =
\begin{cases}
1, & \text{\text{if}} \backslash \{\beta_m(t)\}, \\
0, & \text{\text{otherwise.}}
\end{cases}
\end{equation*}
```

Note that the “&” is used to mark the tabular alignment. This is important to get proper column alignment. Do not use \quad or other fixed spaces to try and align the columns. Also, note the use of the \text macro for text elements such as “if” and “otherwise.”

H. Function Formatting in Equations

Often, there is an easy way to properly format most common functions. Use of the \ in front of the function name will in most cases, provide the correct formatting. When this does not work, the following example provides a solution using the \text macro:

$$d_R^{KM} = \arg \min_{d_i^{KM}} \{d_1^{KM}, \dots, d_6^{KM}\}.$$

is coded as follows:

```
\begin{equation*}
d_R^{KM} = \underset{\{\text{\arg min}\} \backslash \{d_1^{KM},
\ldots, d_6^{KM}\}}{ }
\end{equation*}
```

I. Text Acronyms Inside Equations

This example shows where the acronym “MSE” is coded using \text{} to match how it appears in the text.

$$\text{MSE} = \frac{1}{n} \sum_{i=1}^n (Y_i - \hat{Y}_i)^2$$

```
\begin{equation*}
\text{\text{MSE}} = \frac{1}{n} \sum_{i=1}^n (Y_i - \hat{Y}_i)^2
\end{equation*}
```

XIV. CONCLUSION

The conclusion goes here.

ACKNOWLEDGMENTS

This should be a simple paragraph before the References to thank those individuals and institutions who have supported your work on this article.

APPENDIX

PROOF OF THE ZONKLAR EQUATIONS

Use `\appendix` if you have a single appendix: Do not use `\section` anymore after `\appendix`, only `\section*`. If you have multiple appendixes use `\appendices` then use `\section` to start each appendix. You must declare a `\section` before using any `\subsection` or using `\label` (`\appendices` by itself starts a section numbered zero.)

REFERENCES SECTION

You can use a bibliography generated by BibTeX as a .bbl file. BibTeX documentation can be easily obtained at: <http://mirror.ctan.org/biblio/bibtex/contrib/doc/> The IEEEtran BibTeX style support page is: <http://www.michaelshell.org/tex/ieeetran/bibtex/>

SIMPLE REFERENCES

You can manually copy in the resultant .bbl file and set second argument of `\begin` to the number of references (used to reserve space for the reference number labels box).

REFERENCES

- [1] *Mathematics Into Type*. American Mathematical Society. [Online]. Available: <https://www.ams.org/arc/styleguide/mit-2.pdf>
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