bitgrit

bitgrit White Paper

A Blockchain Project for Decentralizing and Democratizing Artificial Intelligence

A Democratic AI Solution

Version 1.2

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Abstact

In today's economy, as the value of artificial intelligence (AI) continues to increase, it also becomes more concentrated in the hands of the few big businesses that can afford it. The result is often that smaller organizations cannot afford data consulting services to drive business decisions and data scientists fail to receive proper credit and compensation for their work.

At bitgrit, we believe in AI for all. The benefits to society that can be afforded by the automation and efficiency that AI generates should belong to everyone, including smaller enterprises with underutilized data. Furthermore, we believe that the value generated from AI algorithms should belong to the data scientists who created them.

To decentralize and democratize AI, we are creating a marketplace where we deliver companies' data-related problem statements to our global community of data scientists in a competition format. The data scientists on our competition platform then submit data-driven business solutions in response to these problem statements. Through this crowdsourced format, we provide our clients access to a pool of talent larger than any in-house team can deliver – and without the huge upfront investment.

We are also integrating blockchain technology on our platform to serve as an immutable ledger of who submits what algorithms. This is how we ensure that value is transmitted transparently and equitably from data scientists to companies as AI solutions and from companies to data scientists as compensation. This is where our cryptocurrency, called GRIT, comes into play. bitgrit plans to convert fiat currency received from clients into GRIT, which we send to data scientists according to their degree of contribution in creating the final AI model submitted to the client.

In our AI Marketplace platform, we aim to:

- Provide AI solutions to businesses that otherwise cannot hire data scientists
- Ensure that data scientists receive remuneration proportional to the profit generated by models they submit
- Benefit society with improved efficiency made possible by more accessible and open AI

In addition to our AI Marketplace and competitions, we are dedicated to contributing to the global data scientist community, with a special focus on Asia where we are based. We do this by encouraging collaboration on our online forum, creating a Job Board for data-related positions, and organizing events worldwide such as our proprietary World Data Science Forum (WDSF).

The global AI market was valued at USD 21.46 billion in 2018 and is expected to reach USD 190.61 billion by 2025, with a compound annual growth rate of 36.62%.[1] In an industry with such rapid projected growth, there's a need for an interactive platform that serves both corporate clients and data scientists. bitgrit's mission is to be that platform.

To reach this goal, we will continue deploying functions to further level the AI field. Integrating blockchain will create transparency and accountability, and our GRIT token will be backed by the value of data sets and models on our platform.

As our AI Marketplace continues to grow, we will deliver quality data, valuable algorithms, and top talent at greater scale. bitgrit is poised to make effective use of these services and foster the network's continued growth. In our ecosystem, all of our stakeholders win – the companies that submit problem statements and data sets on our platform, the data scientists who get experience and monetary rewards, our customers who buy models on our AI Marketplace, and our partners who enable us to provide these essential services.

Collaboration is our currency – join us and make it yours, too.

The State of Artificial Intelligence

AI is by far the fastest-moving technology that we are witnessing in terms of its societal impact – and the AI era has just started.

The recent explosion in big data alongside advancements in deep learning has fueled the third AI boom. AI is no longer restricted to the academic sphere, nor is it a mere marketing gimmick for companies. AI has become deeply intertwined with the business models used by FAANG and the hundreds of new startups that are disrupting nearly every sector of the economy.

While the AI field has not changed fundamentally in the past 30 years, the relentless and exponential increase of computational power available has allowed us to create larger and, more importantly, multi-layered networks. This is coupled with advancements in algorithm design allowing for automatic feature selection as well as backpropagation and pooling across these multiple levels. GPU-based algorithms – which run orders of magnitude faster than their CPU counterparts – have resulted in the first breakthrough in performance for image recognition. The combination of increased computing power and novel neural network design has given way to technology with state-of-the-art performance and breakthroughs in multiple fields of computing science, including image recognition and

[1] "Artificial Intelligence Market - 2025 | MarketsandMarkets." https://www.marketsandmarkets.com/Market-Reports/artificial-intelligence-market-74851580.html.

categorization, speech recognition and synthesis, and dozens of others.

The industry is applying data science tools to large data sets to make the data more meaningful and create value out of data for businesses. Data scientists use AI algorithms to extract value from all sorts of data sets, be it PDFs, spreadsheets, images, scans, audio, video, or emails. This data is then used by data scientists skilled in machine learning, pattern recognition, language processing, pattern recognition, computer vision, deep learning, etc. to enable companies to boost revenues and/or increase cost efficiencies in their businesses.

While these incredible technological advances have certainly increased the prospects of AI as a game changer across many verticals, several key challenges remain. The primary beneficiaries of machine learning have been large, centralized entities that have been able to create or purchase large training data sets. These firms can also hire from the limited pool of talent capable of producing machine learning models that can benefit from training on said data sets. This exacerbates the problem of the global concentration of wealth by a few corporate entities.

In the near future, the expansion of IoT into the heterogeneous personal computing space will accelerate the creation of data that can be used to train models. Unfortunately, the current evolutionary trajectory of ecosystems is leading to a future where a greater concentration of data falls into the hands of a few large companies.

As a result of the growth of AI and data, an increasing number of data scientists are entering the space to process new problem statements. Most experts in the field quickly get pulled out of academia and into corporations, with a few large industry players vacuuming up most of the available talent.

Fortunately, there are more data scientists yet to be discovered than there are data scientists who have already been identified and are already working for major players. This is an opportunity for us to create a global data scientist community that can work cooperatively and competitively to create machine learning models that deliver immense value.

bitgrit envisions an open and free environment for AI research, rather than an exclusionary and centralized one. More importantly, by recording attribution on an immutable public ledger, we can ensure that people who create the models that deliver value are compensated with the majority of that value.

The Global AI Market

With increasing demand for AI solutions, this industry has become one of the world's fastest-growing markets. This massive potential for growth lies in AI's ability to create value, regardless of industry. AI has a remarkable ability to reduce wasteful practices, save time, increase efficiency, and channel data to make informed business decisions. Global research firm Gartner predicts that this quantified value will skyrocket to an estimated US$2.9 trillion by 2021,[2] while the International Data Corporation predicts that spending on AI systems will escalate to $79.2 billion by the same year.[3]

The AI market was valued at $21.46 billion in 2018 and is expected to reach $190.61 billion by 2025, with a compound annual growth rate (CAGR) of 36.62% over the forecast period.[4] The technology has the potential to create an additional $2.6 trillion in value by 2020 in Marketing and Sales, and up to $2 trillion in manufacturing and supply chain planning.[5] According to Adobe, only 15% of all enterprises use AI in 2018, but 31% more enterprises are expected to use AI in coming years.[6]

bitgrit's primary markets are the U.S., Japan, and India, and all three countries have shown exponential growth in AI adoption over the past few years. The total amount spent on AI in the United States increased by 77.3% between 2017 and 2018 to reach $4.18 billion. In the period from 2019 to 2025, spending on AI is expected to increase from $6.45 billion to nearly $36 billion with a CAGR of 27.8%.[7] India is ranked third globally in terms of AI implementation with 19%. The AI industry in India was recently estimated to be worth $490 million (annual) in revenue in 2019, up from $230 million in 2018.[8] Furthermore, the AI market in India is expected to grow to $89.8 billion by 2025.

However, this huge global market is concentrated in the hands of a few technology giants,

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[2] "Gartner Says AI Augmentation Will Create $2.9 Trillion of ...." 5 Aug. 2019, https://www.gartner.com/en/newsroom/press-releases/2019-08-05-gartner-says-ai-augmentation-will-create-2point9-trillion-of-business-value-in-2021.

[3] "Worldwide Spending on Artificial Intelligence Systems ... - IDC." 11 Mar. 2019, https://www.idc.com/getdoc.jsp?containerId=prUS44911419.

[4] "Artificial Intelligence Market - 2025 | MarketsandMarkets." https://www.marketsandmarkets.com/Market-Reports/artificial-intelligence-market-74851580.html.

[5] "AI to Bring $2.6 Trillion of Value to Marketing and Sales." 8 Aug. 2018, https://www.marketingaiinstitute.com/blog/ai-to-bring-2.6-trillion-of-value-to-marketing-and-sales.

[6] "10 Charts That Will Change Your Perspective On Artificial ...." 12 Jan. 2018, https://www.forbes.com/sites/louiscolumbus/2018/01/12/10-charts-that-will-change-your-perspective-on-artificial-intelligences-growth/.

[7] "Artificial Intelligence (AI) Business Opportunities & Outlook in the ...." https://www.marketwatch.com/press-release/artificial-intelligence-ai-business-opportunities-outlook-in-the-united-states-2016-2025---spend-on-ai-is-expected-to-record-a-cagr-of-278-during-2019-2025---researchandmarketscom-2019-03-26.

[8] "India doubles its AI workforce in 2019, but faces talent shortage." 27 Dec. 2019, https://economictimes.indiatimes.com/tech/ites/india-doubles-its-ai-workforce-in-2019-but-faces-talent-shortage-great-learning/articleshow/72997071.cms.

namely IBM, SAS Institute, Oracle Corporation, Amazon Web Services, and Microsoft Corporation. These corporations held a 54.85% share of the data market in 2016.[9]

Adoption of data science in emerging markets – such as those in Brazil, the Gulf, and Africa – is still at a nascent stage unlike those in developed markets. The importance of data collection and insight extraction in local economies is anticipated to fuel the demand for data science platform services.

According to a Nikkei Asia survey,[10] in order to implement data analytics into company practices, the biggest challenge for organizations both in Japan and the United States is attracting and retaining talented data scientists. 62% of companies say that their biggest challenge is finding talent. Most of the companies surveyed rely on internal employees training to handle analysis needs, and 39% of companies are using tools that can easily be managed by employees without any specialized skills.

2018 witnessed a 45% increase in the supply gap of data professionals, indicating a talent shortage and the pace at which businesses are adopting analytics and data-based decision making. In the last few years, many large players have been forced to "acqui-hire," or acquire companies with the main goal of recruiting their employees, to keep the wind in their sails. In India, close to 97,000 positions related to analytics and data science remain vacant due to a scarcity of needed talent.[11] Most of these job openings are for junior level roles; around 70% of job openings in 2019 are for candidates with less than five years of experience, an increase of 8% over 2018. Opportunities for freshly-graduated professionals have also increased, with relevant job openings accounting for 21% of analytics jobs, compared to 17% the previous year.[12]

While interest and growth in AI has soared in recent years, market analysts predict that the field will achieve even more rapid growth – in terms not only of market size, but implementation in business across all sectors, and by extension, society at large. With rising demand and potential for growth, one can expect to see a rise in demand for AI services, particularly a model like bitgrit's that allows for companies to source AI solutions from a global community of data scientists.

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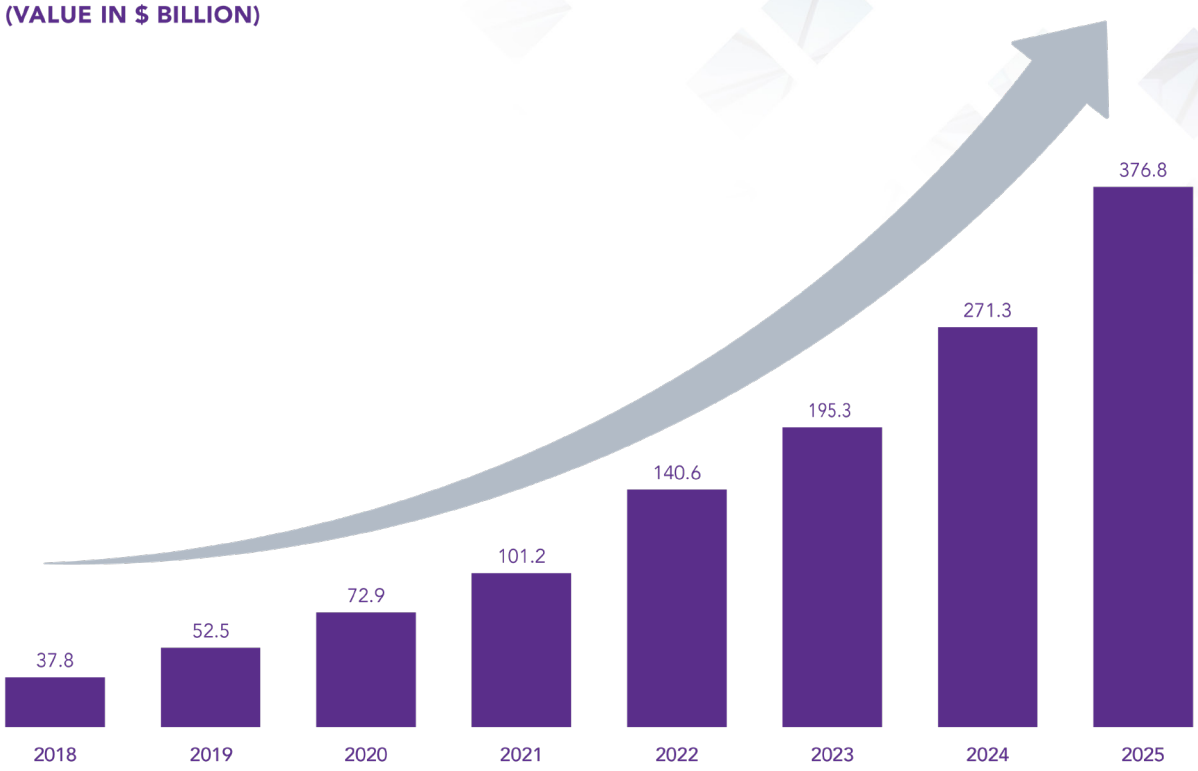
[9] "Data Analytics Market 2019 Global Size, Industry Share, Sales ...." 15 Feb. 2019, https://www.marketwatch.com/press-release/data-analytics-market-2019-global-size-industry-share-sales-revenue-development-status-key-players-competitive-landscape-future-plans-and-regional-trends-by-forecast-2023-2019-02-15.

[10] "Majority of Japanese companies mine big data - Nikkei Asian ...." 11 Dec. 2014, https://asia.nikkei.com/Business/Majority-of-Japanese-companies-mine-big-data.

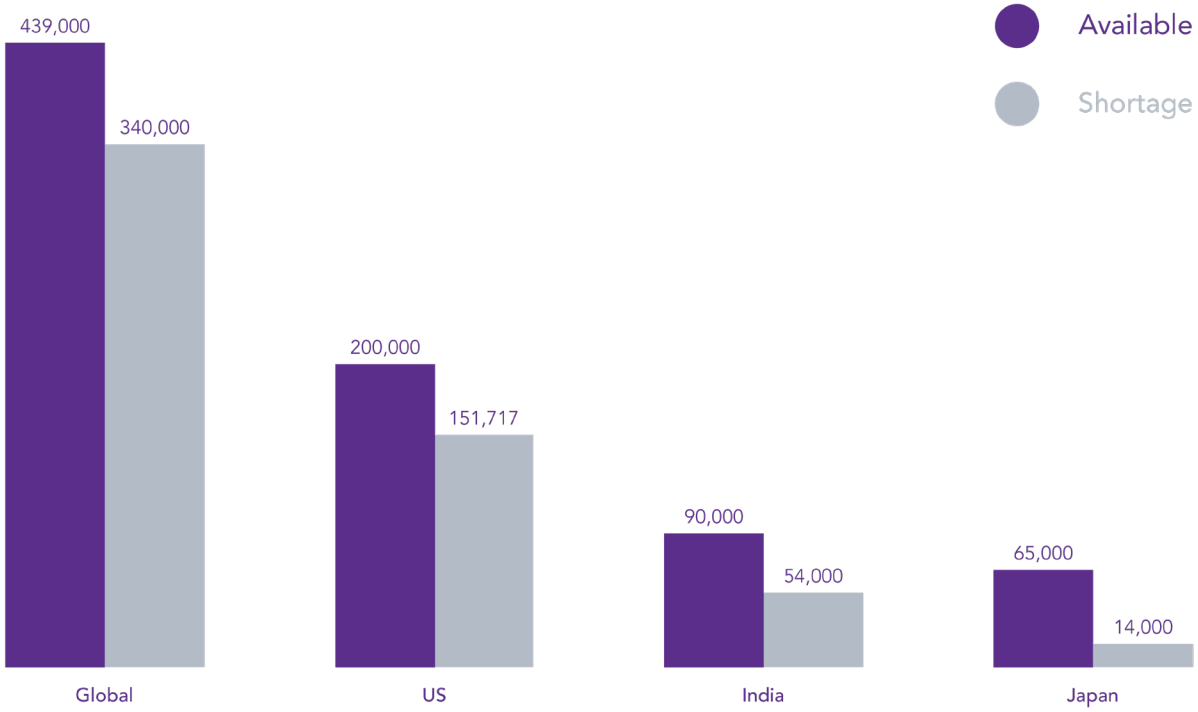
[11] "97,000 analytics and data science positions vacant in India ...." 28 Feb. 2019, https://economictimes.indiatimes.com/jobs/97000-analytics-and-data-science-positions-vacant-due-to-talent-dearth-study/articleshow/68203736.cms.

[12] "Study: Analytics And Data Science Jobs In India 2019." 28 Feb. 2019, https://analyticsindiamag.com/study-analytics-and-data-science-jobs-in-india-2019-by-great-learning-aim/.

ESTIMATED SIZE OF GLOBAL DATA SCIENCE MARKET
(VALUE IN $ BILLION)

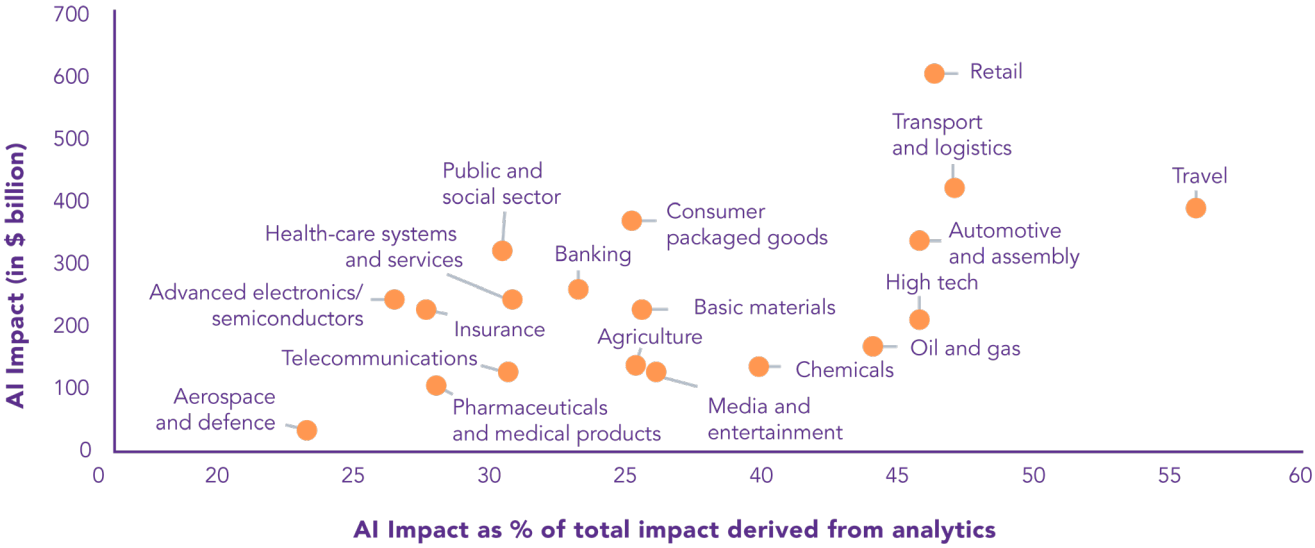


DATA SCIENCE PROFESSIONALS



From the McKinsey Global Institute's article Notes from the AI Frontier: Insights from Hundreds of Use Cases, the potential impact of AI in the immediate future of the business analytics field will bring value in the billions. The top five fields in terms of financial value as outlined by this report are:

1. Retail
2. Transport & Logistics
3. Travel
4. Public and Local Sector
5. Automotive & Assembly



However, other industries, such as the finance sector, manufacturing, and agricultural sectors, are also moving into the AI sphere. As these industries begin adopting AI into their business models and processes, the importance of small and medium-sized enterprises (SMEs) being aware of data scientists' skills and the potential to apply these skills in their own businesses continues to increase. Awareness of these factors helps avoid monopolization in the industry and ensures that firms can keep ahead of the competition.

Latent Potential of AI

AI is by far the fastest moving technology that we are witnessing in terms of its impact, and the AI era has just started. Yet its adoption – even among companies with valuable, actionable data – remains a challenge due to a multitude of obstacles as listed below:

- Trouble determining possible use cases and value that can be extracted from existing data
- Difficulties in translating business challenges into data science problems
- Inability to develop, experiment, and rank a variety of models rapidly
- Hassles identifying the right talent to produce customized models
- Shortage of appropriate data science talent in the market
- Risks of providing people access to confidential data
- Structuring of data and identification of relevant parameters

Democratic AI

Democratic AI represents true democracy in harmony with equitable capitalism. Instead of the power of AI or the means of modern business production being controlled by the few, democratic AI places distributed power in the hands of the masses.

More specifically, decentralization provides the benefits of fault-tolerance: no single point of failure, no central authority that could censor information, and distributed trust systems.

With decentralized applications (DApps), it is now for the first time possible to create open source and profitable applications, such as democratic AI DApps around community-controlled AI and data science. Further, democratic AI allows for competition in the AI space as opposed to the centralization of money, talent, data, and computing power in a few corporate entities. The current state of centralized AI has led to a winner-take-all economy. Profits from AI benefit a few corporations rather than the data owners and, most deserving, the data scientists themselves.

In a similar vein, democratic AI allows for greater accountability in data ownership and AI oversight. With the transparency of blockchain smart contracts, there is a clear structure for accountability in the case of data bias or AI abuse, as opposed to the traditional opaque systems of centralized AI and data. Within the new DApp structure, token ecosystems can be designed to incentivize users to collaborate, with rewards flowing to users based on the merit of their actions and automatically distribute value based on the value of the utility delivered by the system.

From a more pragmatic standpoint, there are countless historical examples of larger corporations exceeding the permission limits of user data and breaching user trust. For

example, Yahoo announced in 2017 that all 3 billion of their users' private data had been compromised. Millions of Americans lost their social security information in the Equifax breach, and many private companies including Uber, eBay, LinkedIn, and Adobe have also misused user information. When personal data is breached, user trust is irrevocably damaged. bitgrit only uses user data from various services for the purpose of improving the services that send data to the bitgrit API, which could be verified by open, immutable smart contracts that handle data management.

Technical Infrastructure Demand

Currently, one of the major problems facing data scientists, especially those who work in smaller corporations, is a lack of infrastructure needed to train and deploy their AI Models. While a data scientist may be a subject matter expert in their field and able to write algorithms that turn the data they are working with into a functional AI model, developing their algorithms into a fully-trained AI model requires a depth of technical knowledge outside their field of study.

This is a multi-faceted problem. It means that data scientists must become not only an expert in the efficient use of computing power, but more concerningly, it severely limits data scientists without access to such computing power due to limitations in budget or time. Another challenge in the contemporary landscape of AI is the issue that general AI models have become largely ineffective in solving real world problems. In their place, data-specific models have taken precedence.

With this in mind, the key to successfully bringing AI to the masses is to either:

- Adapt a pre-existing algorithm to train on a specific set of data, or
- Create specific algorithms for specific problems

Currently, companies such as Algorithmia and Amazon's AI Marketplace focus on allowing a user to utilize an AI model for a specific purpose, such as gender recognition AI or a model that colorizes a monochrome image. However, in real-world business cases, this level of generalization is ineffective given the specific AI needs of corporations.

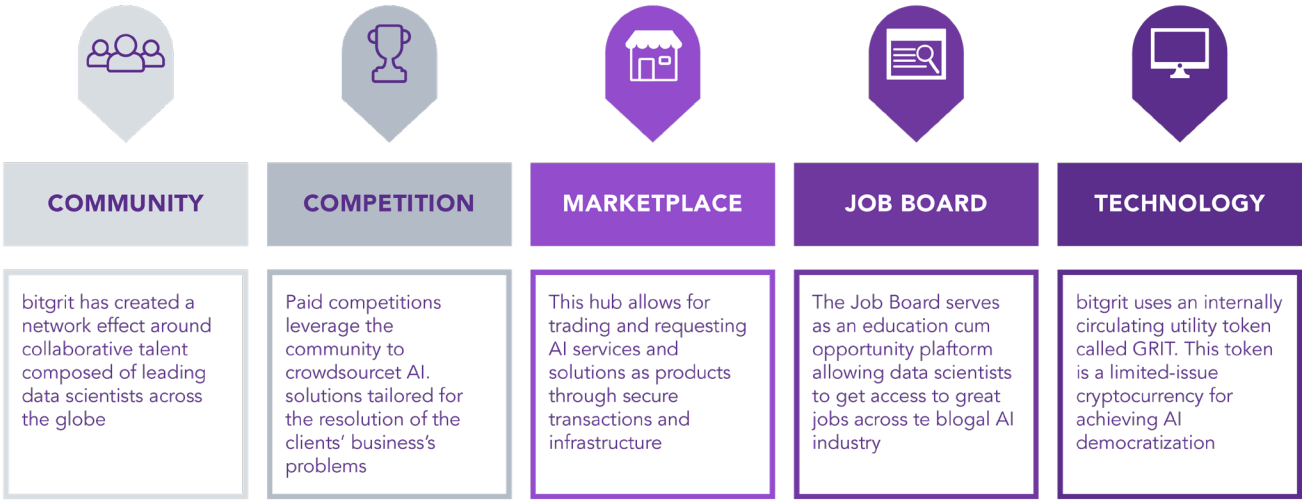
Considering this, bitgrit's focus is not on providing access to general AI models, but rather providing the infrastructure for data scientists to train and deploy narrow AI models for a specific business need.

About bitgrit

bitgrit is an online AI competition platform geared towards data scientists. In utilizing blockchain technology, bitgrit paves the way for optimal application of data science and AI within the context of society and business. The bitgrit platform changes the way AI is built through a democratic, crowdsourced model and an open ecosystem. The company works towards building a platform where data scientists can congregate, network, prove their skills in competitions, get access to job opportunities, and generate income from their skills and hard work.

Salient Features of bitgrit

1. bitgrit redefines how society approaches AI by connecting businesses, data scientists, and data providers in an open ecosystem
2. bitgrit removes the friction between AI problems and solutions
3. bitgrit provides a data scientist network and AI Marketplace that helps data scientists, data providers, and companies collaborate on AI solutions in one consistent and easy-to-use platform
4. By understanding the challenges facing businesses today in finding resources to implement AI, the bitgrit platform fundamentally changes the way AI is built
5. Our interactive platform evolves to meet the needs of clients and provides the necessary computing and storage infrastructure required by both clients and data scientists



bitgrit's Approach

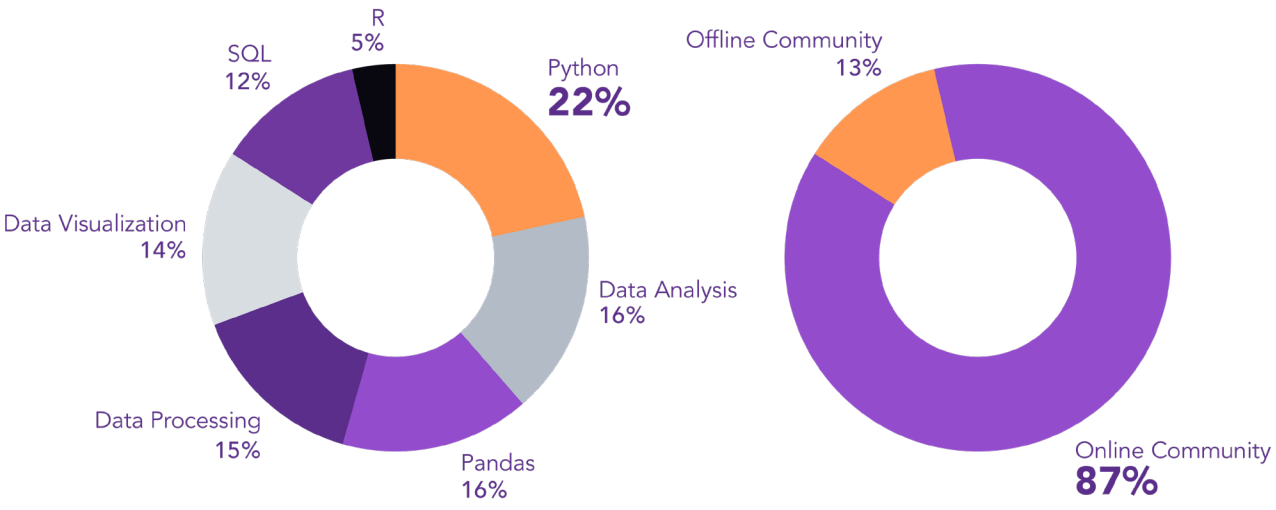
- The online community of data scientists has been built in a way whereby users may compete to solve problem statements presented in the form of competitions, as well as to experiment with certain data sets
- Planned development focuses around creating open and free communication about AI models, training techniques, and other know-how to create a stronger intellectual community centered around value creation
- bitgrit aims to create an AI Marketplace for clients to be able to share problems that require AI solutions and their commensurate data to purchase access to said models if the community is able to deliver a valuable solution

Using the above approach, we at bitgrit envision a world where the creation of AI is democratized and distributed within the data science community at large.

The bitgrit Community

bitgrit's community is composed of a global network of AI engineers, data scientists, data analysts, and others working or interested in the data field. Our community is skilled in nearly all the diverse fields of data science.

bitgrit's current community stands as follows:



Local events are the mainstay of the bitgrit community. We aim to engage in close, direct communication with local data scientists – a quality that sets us apart from competitors. In turn, these efforts guarantee a community that thrives on value-sharing, has an invested interest in bitgrit, and actively contributes to building valuable AI algorithms. Through this amalgamation of online and offline efforts, the bitgrit community continues to expand.

Why bitgrit?

A Democratic AI Solution

The bitgrit platform has established an online network of data scientists at a worldwide level. The data scientists in bitgrit's platform participate in crowdsource-based competitions that provide intelligent solutions to clients with data-related business problems. The AI Marketplace provides individuals and corporations with access to pre-built algorithms. Compared to the traditional market where large corporations do not share the models they build internally, bitgrit seeks to serve as an open marketplace.

This is specifically done by means of bitgrit's online platform, which allows users from all around the world to collaborate and solve real-world data science problems regardless of their identity, location, or background. The platform will be equipped with smart contracts and blockchain protocols within the network, allowing bitgrit to transparently manage who contributes to what project on the platform, and ensure that users can be rewarded relative to their contribution.

In essence, bitgrit makes AI technology, talent, and knowledge openly available, no longer in the realm of the arcane. bitgrit opens AI's potential to revolutionize business and technology through a variety of local, in-person events like WDSF events held across the globe for the purpose of knowledge-sharing and fostering an open exchange of information.

Trust and Ethics

Blockchain and smart contract protocols guarantee trust and ethical transparency. Such technology allows us to transparently manage who contributes to what project on the platform and ensure that users can be rewarded relative to their contribution.

Solves a Talent Dearth

There is a growing dearth of data science and AI talent across industries. Close to 97,000 Data Science positions remain unfilled across industries in India alone, many of those for

junior-level positions. What's more is that this scarcity grew by 45% from 2018 to 2019.

With the bitgrit platform, we alleviate this shortage by sourcing talent from a thriving community of data scientists to handle problem statements from companies around the world. SMEs can access AI talent without expending exorbitant resources on building internal teams, while data scientists can access job opportunities worldwide regardless of their location or background. This gig economy provides short-term projects and employment opportunities for data scientists with global companies.

Global Community

Active globally both online and in local chapters, the bitgrit community unlocks opportunities for education, employment, experience, and more. In addition to these efforts, bitgrit has allied with research institutions, think tanks, and universities across Japan, India, Asia, and the world at large to further uncover the potential of AI.

With dozens of local events hosted across the world throughout the year, bitgrit's thriving data scientist community liberates knowledge of data analytics, AI, and data science to empower data scientists to apply their talent to some of the world's most pressing AI problems. Through actively hosting local and online events, bitgrit creates a solid network of trust, cooperation, and symbiosis, the collective power of which we apply in creating our brand of crowdsourced AI.

bitgrit Platforms

Competition Platform

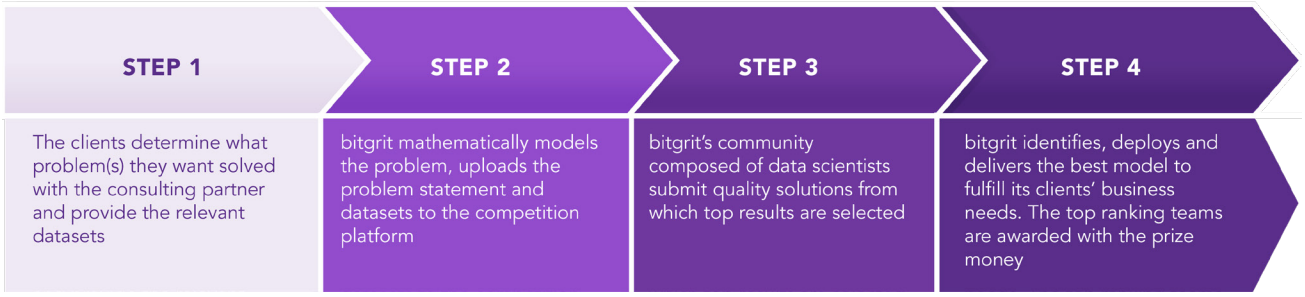
Competitions can be a great way to spark innovation, test real-world data skills, and engage internal teams or expert communities with the toughest data challenges in business. bitgrit works with partners to set up private, white-label deployments of data science competitions.

bitgrit competitions help business professionals identify the most compelling AI use cases in their company, crowdsource AI models from a community of over 20,000 data scientists, and deploy it on their systems without the hassles of recruiting an in-house data team. For each problem statement, thousands of data scientists compete and collaborate to build optimum AI models tailored for the resolution of the clients' business problems, the best of which we hand-pick and deliver.

Through bitgrit's Crowd-based AI as a Service (CAIaaS) model, our clients get the top-performing model from thousands of submissions, allowing for speedy scaling at a fraction of the cost of hiring a team. Top models are uploaded to the AI Marketplace, and models from the competition can be reused by customers with similar business problems, all while returning revenue to contributing data scientists.

bitgrit's managed provision of CAIaaS is by far the most efficient way to build the best possible custom AI models.

There are several steps involved in hosting a competition:



Every competition ends with a final leaderboard showing the rank of all competitors' top submissions. The highest ranking member or team is nominated as the winner.

The prize money is awarded on condition of delivering the following:

- Winning solutions with clean documentation to explain their implementation
- A worldwide, perpetual, non-exclusive license allowing the client to use the solution model commercially

AI Marketplace

bitgrit aims to create an AI Marketplace for clients to be able to share problems that they would like AI to solve, along with the relevant data, and to purchase access to said models if the community is able to deliver a valuable solution. The core of the AI Marketplace revolves around the buying and selling of trained models and data sets through an order-based system. The marketplace will involve two main participants: data scientists and companies hoping to build AI algorithms. Though the full marketplace is planned for completion in the later stages of our development plan, this function plays a crucial role in realizing our full platform.

When a client wants to buy an algorithm through our AI Marketplace, they will go through a customer journey similar to an order-based system. Users can search the metadata of algorithms or the data itself on the marketplace to return relevant results. Similarly, data

scientists may offer their services by searching for the metadata of relevant proposals. For instance, a data scientist specializing in healthcare solutions may search for related proposals in the Marketplace.

Customers may purchase AI in two forms:

1. Custom AI models with complete ownership
2. Access to an AI API connected to a trained model

If the customer purchases a custom AI model, they will receive access to the source code and may train the model using the data providers' data in the cloud. If the customer buys access to the AI API, they are billed based on the number of API calls to a trained model. The intellectual property of the models and data belong to bitgrit, while the data scientists involved in creating the model will be given a portion of the revenue generated.

In order to build the aforementioned AI algorithms, companies submit a problem statement to the marketplace. bitgrit or one of its partners then contacts data providers to garner relevant data sets, ensuring that the data is cleaned and serves the purpose of solving the submitted problem. Once bitgrit has the data and the precise problem that needs to be solved, data scientists will compete to create the best algorithm. Success of a specific algorithm will be measured by accuracy, precision, reproducibility, customer need, and other parameters. The data scientist that creates the most valuable algorithm will be awarded with the prize money.

Every time the model that the data scientist created is sold, either in the form of its source code or through API calls to the trained model, the data scientist will also be rewarded.

AI stemming from themes can be used through APIs, and exhibitors will be able to receive their earnings automatically. This platform will serve to tie together companies, AI creators, and data providers. Through building a democratic AI network, anyone will be able to use this network, which comes to fruition through the elements of learning themes and data, learning models and evaluation, and much more.

The AI Marketplace will naturally grow as a free market economy between data scientists and companies. Over time, as the amount of distributed data, pre-built models, and crowdsourced talent in the market grows, it will become computationally and economically viable to evolve the Marketplace into a peer-to-peer AI network. A democratic marketplace for a variety of AI products across many business verticals lends itself well to a future ideal of a "cloud brain" P2P network.

Job Board, Learning Platform and the Forum

Data scientists strive to rise through the progression system integrated into the competition platform as well as the AI Marketplace to stand out from the crowd and secure leading data science job opportunities around the globe. bitgrit provides its data

science community with relevant learning material to hone their data skills, as well as a forum where they can connect with their peers spanning different backgrounds (academia, industry, university, research etc.) to discuss relevant topics and clarify their queries. All of this is supplemented with a Job Board that allows clients to directly recruit the competition winners or AI collaborators for deployment or refinement, along with a host of other opportunities that resonate with the skill set of the data scientists.

Business Model

bitgrit's business model consists of four components: community, competition, the AI Marketplace, and blockchain technology. Combining these business components creates synergy that allows bitgrit to expand its business by offering benefits to four players. These players are clients who sponsor AI competitions, partners that collaborate with us for events and non-profit competitions, customers seeking AI models on bitgrit's marketplace, and data scientists who provide their data modelling and analytics expertise to solve problems. All players are important and play a major role in all aspects of our business.

Community

This is the core of our ecosystem because data scientists in this community provide solutions to real-world problems with relevant data. A larger community means more talent in the ecosystem, propulsing growth in other business components. This also enables more people to compete in online competitions, meaning more models and jobs posted on the Marketplace, causing more GRIT token to circulate.

Competition

This is where companies or individuals that have specific business problems sponsor competitions with prizes. A data scientist in our community can participate in competitions to create the best solution to the problem supplied by the company. The best solutions will be posted in the Marketplace, with the majority of the ownership reserved for the model creator and reused by customers with similar business problems. Additionally, our partners give both technical and business support to competitions.

Marketplace

The Marketplace is focused on result-oriented collaborations. Models in the Marketplace can be used by a customer as a service, while the model and data legally remain the intellectual property of bitgrit, and the creators are rewarded in a revenue-sharing model by means of smart contracts. Also, companies who are looking for data science talents can post job openings and crowdsource data- and AI-related tasks. Therefore, the Marketplace provides a win-win solution for companies seeking solutions and individuals looking for job opportunities.

Technology

All three components are supported by our utility token called GRIT. GRIT token and bitgrit's carefully-designed Tokenomics empower AI democratization, made possible by the token being used as both a form of payment and a staking asset to establish trust on the platform.

Technological Overview

bitgrit empowers data scientists to deploy, manage, and share their AI models with ease by means of its cutting-edge technological infrastructure. In order to underpin the competition platform and the AI Marketplace, bitgrit uses a serverless AI layer built to relieve both data scientists and clients from the hassles of deploying models at scale. Data scientists are often unaware of the process of deployment or how to turn their models into scalable applications due to the intricacies of load balancing, event handling, and container management – skills that involve distributed systems, senior-level software engineering skills, and cloud architecture.

To tackle this problem, bitgrit utilizes microservices that package each application component in an individual piece, usually with a RESTful API endpoint for access. A production application developed as a microservice has communicating components, all developed and maintained separately. This allows AI models to maintain independence while also facilitating the needed inter-model interaction.

In addition to microservices, bitgrit employs a serverless architecture to solve the following:

- Companies don't need to manually deploy and constantly manage virtual machines
- Data scientists can pipeline models together with ease

bitgrit's platform is based on a multi-layered architecture composed of the following:

1. Data Layer
2. Back-end (Protocol) Layer
3. Network Layer
4. Application Layer
5. Blockchain Layer

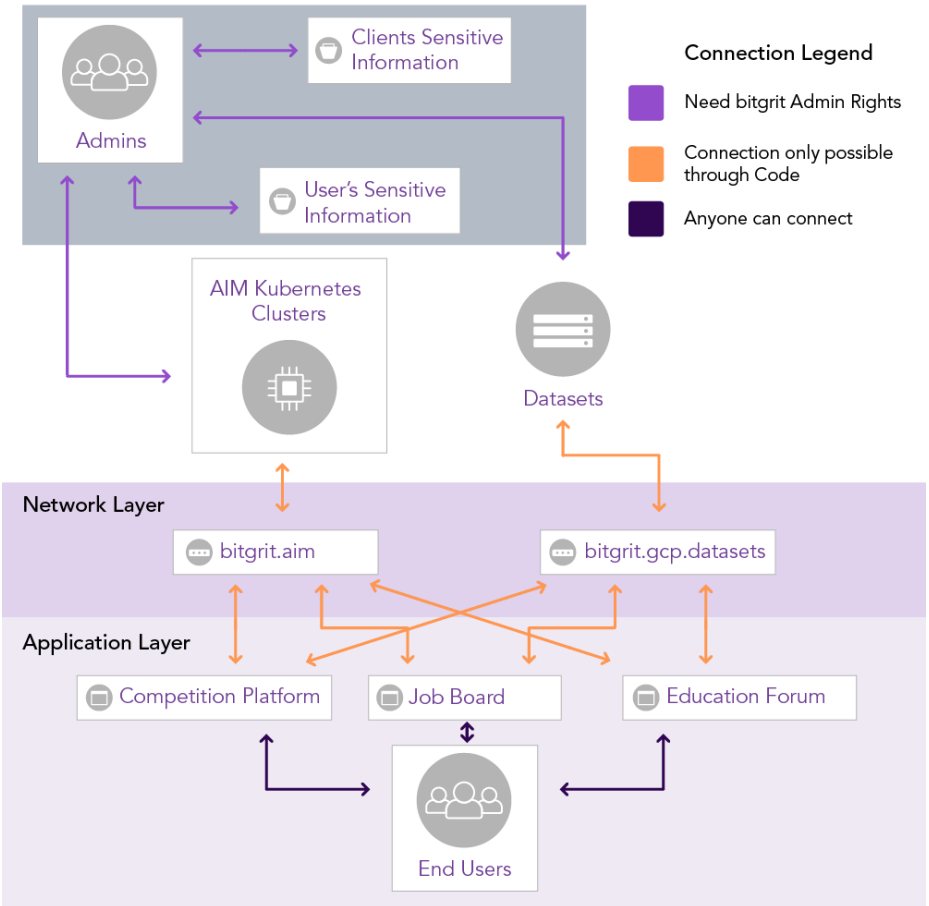
The Application Layer consists of a front end where data scientists and companies access the platforms, upload and utilize AI models and data, and connect to the token wallet. Models and data are stored in the Data Layer, and the data itself is stored in an encrypted, distributed datastore on the Google Cloud Platform. This is due to the technical infeasibility of storing the Data Layer on the blockchain itself due to poor scalability and energy efficiency. The AI Marketplace will be powered by Kubernetes clusters.

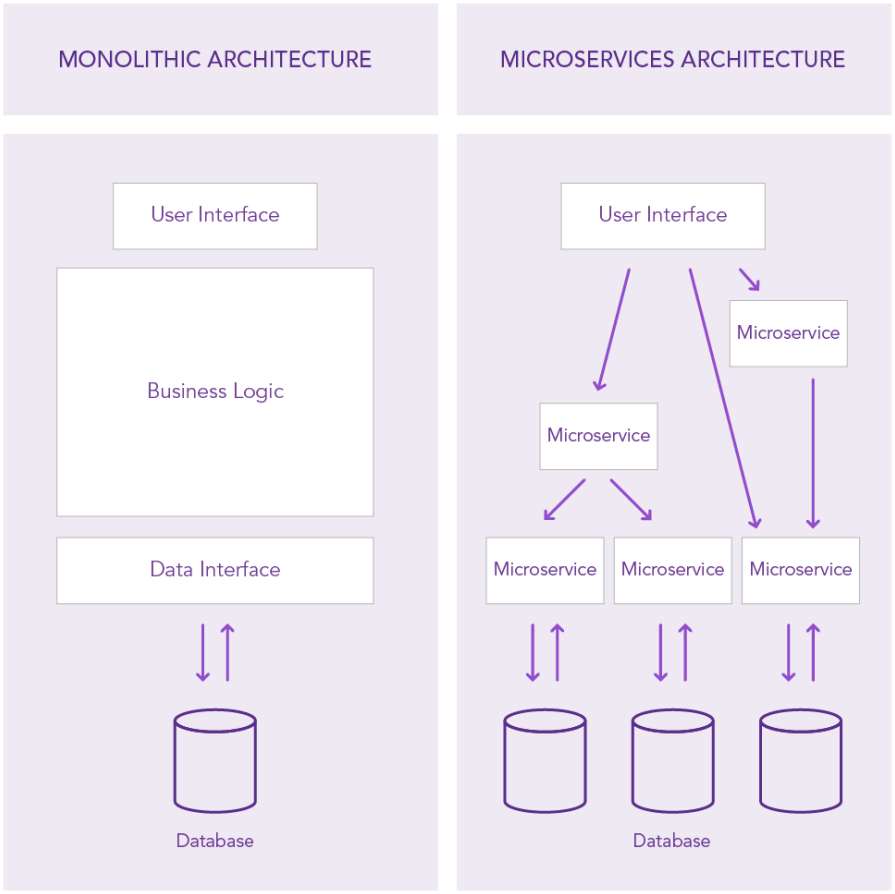
The Back-end Layer will be responsible for ranking the models submitted by users based on the criteria specified by the client for the problem statement or against a general measuring scale as defined by bitgrit. This layer will make sure that the privacy of the data is not compromised when executing a model against a data set by providing an isolated environment that can only be accessed with the permission of the data owner.

The bitgrit platform is an excellent fit for crowd-based AI provision services.

- On the training side, most data scientists don't have expertise in distributing complex training loads across both GPUs and CPUs. The bitgrit platform automates that process.
- On the inference side, calls to machine learning applications can be unpredictable and clustered. The bitgrit platform scales up and down to meet demand while avoiding high costs.
- Both training and inference often require use of specialized GPU hardware, which shouldn't be part of a business' core infrastructure. bitgrit provides the same services by means of the GCP cloud.
- The platform allows models to be versioned, managed, and searchable in order to quantify contributions from the data scientists while collaborating on a project.
- The platform serves as a data connector, pulling data from any cloud or on-premises server. Data scientists can input their models in any language, and a universal API is automatically generated.

An architectural overview of the technical infrastructure is provided below.





Blockchain Implementation

bitgrit is building a powerful architecture using cutting-edge blockchain protocols to keep up with the ever-changing technological landscape. In its quest to democratize AI, bitgrit plans on utilizing blockchain technology in its AI Marketplace to record all contributions towards the creation of each AI model on a public blockchain. Making use of extensive experience across relevant industry verticals, bitgrit is building the smart economy of the future at the intersection of AI and blockchain. Rather than aiming to displace institutions, bitgrit seeks to bring the discussion towards institutions and adoption.

Being able to trust AI requires transparency and auditability of the sources of data that are used to train it, requiring open cooperation among all parties involved: the providers of training data, data scientists, and end users. These needs can be met by the immutable

frameworks for trust provided by Distributed Ledger Technology (DLT).

Using blockchain technology, bitgrit seeks to achieve two major objectives:

1. Transparent, immutable and original record of contributions

Blockchain allows bitgrit to transparently manage who contributes to what project on the platform and ensure that users can be rewarded relative to their contribution. While the intellectual property of the models and data legally belong to bitgrit, the records on the blockchain will serve as a public testament of the ownership distribution. Every time the model that the data scientist created is sold, either in the form of its source code or through API calls to the trained model, the data scientist will also be rewarded by means of a revenue sharing model.

2. Technological backing of the GRIT Token Ecosystem

bitgrit plans to issue an internally circulating utility token called GRIT, which is the driving force of all its online platforms. The GRIT token is built on top of Ethereum's ERC-20 protocol, which is the industry standard for smart contracts and issuance of original tokens. It enables bitgrit to quantify the value of AI provided by data scientists and enliven the AI Marketplace.

Further, blockchain and its associated concepts act as enablers for democratized and decentralized AI.

Decentralized AI Enablers		
Runtime	Distributed Ledgers	Distributed ledgers and smart contracts are becoming the preferred runtime and programming model respectively for decentralized AI solutions
	Smart Contracts	
Data Privacy	Homomorphic Encryption	Allow nodes in decentralized AI architecture to execute models over encrypted data sets without having to decrypt the data
	GAN Cryptography	
	Secured Multi-party Computation	Enable machine learning models to execute over secure data sets without compromising the security of the data
Learning	Federated Learning	Provides an effective method for distributing the process of building collective knowledge across a network of nodes while preserving the autonomy and privacy of the individual nodes.

Advantages of blockchain implementation

1. Trust and Ethics
2. Democratization
3. Decentralization
4. Affordability
5. Data Protection and Security
6. Tokenization and Utility

Other advantages include:

Decentralized Intelligence: Blockchain is a decentralized system, while AI is an intelligent system. The intersection of both enables business organizations to set up a blockchain-based architecture compatible with AI.

Energy-saving and Cost-efficient IT Infrastructure: An AI-integrated blockchain helps organizations reduce their energy consumption. Since AI can predict and speedily calculate data, it would also make it possible for cryptocurrency miners to know when they are performing a less important transaction.

Flexible AI Distribution: AI integration with blockchain will pave the way for the development of an artificial general intelligence platform. A successful integration of both technologies will allow quicker and smoother data management, transaction verification, identification of illegitimate documents, etc.

GRIT Token

bitgrit is powered by the blockchain technology, allowing for the quantification and democratization of the value of AI in a transparent way. By using blockchain technology, bitgrit is democratizing AI by bringing together passionate data scientists from around the world and connecting them to companies in need of AI solutions. Through these resources, bitgrit strives to realize an AI Marketplace functioning as a decentralized "cloud brain" in collaboration with multiple stakeholders. The associated cryptocurrency with the bitgrit platform is our GRIT token built on ERC-20 protocol.

bitgrit integrates blockchain technology on its platform to serve as an immutable ledger that tracks which data scientist submits what algorithms. This is how we ensure that value is transmitted transparently and equitably, both in the form of AI solutions from data scientists to companies and as financial compensation from companies to data scientists. This is where our GRIT cryptocurrency comes into play – bitgrit converts fiat currency received from clients into GRIT, which is then sent to the data scientists according to their

degree of contribution in the final AI model that is submitted to the client by means of either AI competitions or the Marketplace.

GRIT token will circulate throughout bitgrit and may be used to access algorithms, data, or premium educational content. Through sharing more and more valuable data and algorithms, a user may improve their ranking on the platform by gaining credibility, visibility, and payment through GRIT. As data scientists compete to create the most accurate algorithms fitting companies' problem statements, their standing in the reputation system may be recorded through smart contracts that self-execute on the blockchain.

The GRIT token also seeks to serve as an incentive system that encourages active participation from all parties. bitgrit plans to incentivize users to behave in ways that improve the network – chiefly, to openly share AI knowledge in the form of models and data. Of course, with the power to steer user behavior towards desired outcomes comes greater responsibility. bitgrit adheres to the pioneering field of token engineering to design token economy systems centered around responsibility.

The above values and features of the AI Marketplace may largely be brought together through a connection with DApps on the bitgrit platform. DApps retain their autonomy and their decentralized nature while receiving the benefits of a much larger audience than they could achieve individually. As bitgrit users may be incentivized to provide value to the platform, DApps, especially democratic AI applications, will receive the benefit of collective intelligence improving their services.

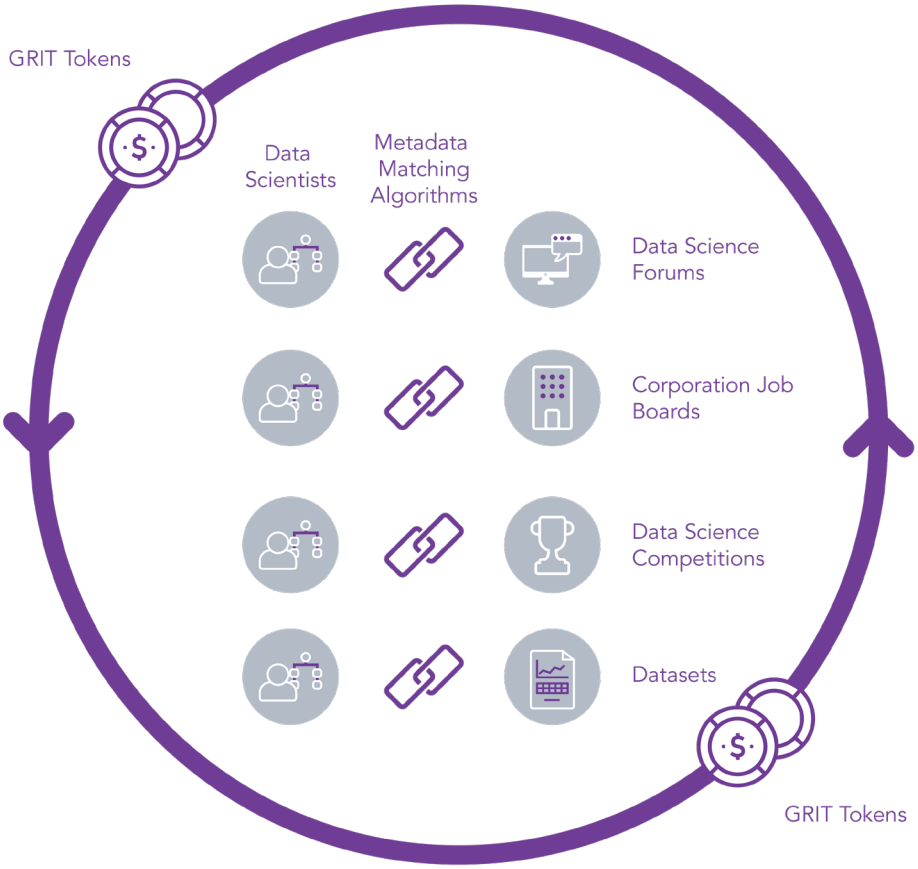
The core of all aspects of the bitgrit platform revolves around GRIT, which powers the ecosystem by incentivizing value sharing. GRIT has several roles as a utility token, including rights-holding, as a value exchange medium, as a payment system, and as a function.

ROLE	PURPOSE	FEATURES
Right	Bootstrapping engagement	Product usage; Governance; Contribution; Voting; Product Access; Ownership
Value Exchange	Economy creation	Work rewards; Buying; Spending; Selling something; Active; Passive work; Creating a Product
Toll	5kin in the game	Running smart contracts; Security deposits; Usage fees
Function	Enriching user experience	Joining a network; Connecting with users; Incentive for usage
Currency	Frictionless transactions	Payment unit; Transaction unit
Earnings	Distributing benefits	Profit sharing; Benefits sharing; Inflation benefits

GRIT owners may have the right to use the AI Marketplace as well as contribute models and data. The market determines the value of these models and data through voting mechanisms, which may reward the user with a certain amount of GRIT. The GRIT token may be used as a medium for value exchange to create an AI product on the market, or otherwise to access AI models, data, and talent.

As a payment system, GRIT may support the maintenance and growth of the infrastructure behind the market, including the execution of smart contracts and usage fees.

Over time, as the AI Marketplace grows due to the network effect, there may be large amounts of high-quality data, accurate models across a variety of domains, and top talent in circulation. As the value of GRIT may grow alongside bitgrit products (models and data) and services (talent) on the market, the quality of the Marketplace may naturally increase, continuously maintained by the users themselves.



Token Backing

On the platform, the major production is of data science models that are sourced from the community in exchange for competition rewards for top performers. As the models are built atop the data sets procured from clients and data set providers, data sets are

logically the only appreciating assets within the ecosystem and therefore backed by the token. In the initial stages where clients are governed/accepted/brought in by bitgrit itself, the chances of appreciation are very high as the company will only choose the projects that it believes can be delivered on by the community. After the initial appreciation, the token value will rise, and the platform will open itself to all clients in the form of the AI Marketplace. This is when the token will start to stabilize.

Token Symbolism

The value of GRIT token will be representative of the overall competence of bitgrit's data science ecosystem composed of its community, technological functionalities, past competition deliverables, expectations from prospective clients, and other factors. An increase in the value of the token will correspond with an improvement in the overall skills and participation from the community and its ability to handle more complicated problems. It will also be a testament that the community was able to generate more value for bitgrit's past clients by furnishing quality data science models and will indirectly represent an increased demand of the company's services.

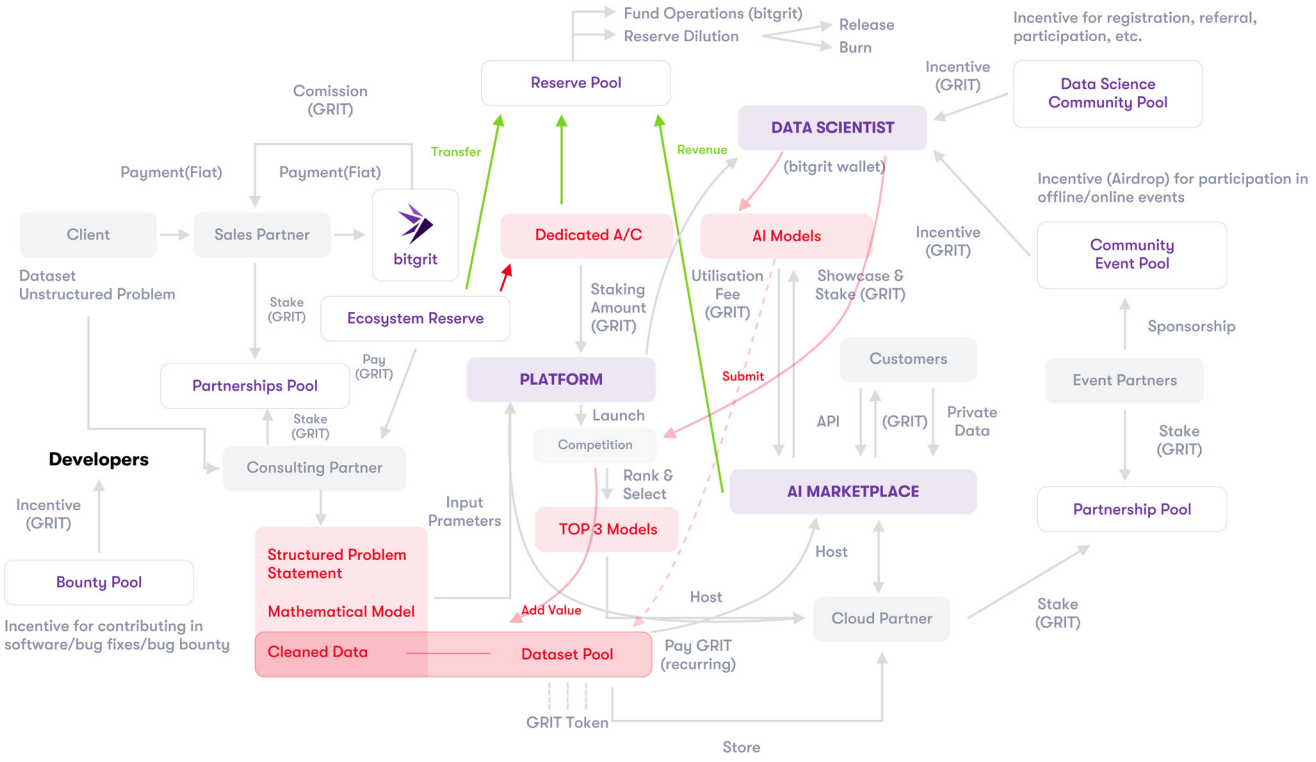
Token Reserves and Pools

In order to achieve a well-functioning token flow, bitgrit has created certain reserves and pools that act as stakeholders in the token economy. Their details are listed as follows:

1. Ecosystem Reserve: The Ecosystem Reserve accommodates clients that are unable to possess a cryptocurrency wallet due to corporate policies, country restrictions, and security reasons by way of a dedicated Ethereum account managed by bitgrit on behalf of its clients. GRIT tokens are transferred from the Ecosystem Reserve to the dedicated account after processing the fiat payment from the client. Due to its depleting nature, the Ecosystem Reserve is replenished by the Reserve Pool as needed.
2. Reserve Pool: The Reserve Pool receives token revenue payouts from the services that bitgrit provides through its platforms. The influx of token revenue is provided by the competition platform, the AI Marketplace, Job Board, etc. The tokens in the reserve pool are sold in the market through mechanisms like burn and release to fund the operations of the company outside the token ecosystem.
3. Partnerships Pool: The Partnerships Pool is meant to be used as a means of staking for the variety of partners that collaborate with bitgrit for the provision of supplementary services like consulting, cloud deployment, sales, etc.

4. Data Science Community Pool: The Community Pool encourages data scientists to actively engage in bitgrit's platforms by means of incentive provision on completion of tasks such as profile updates, competition participation, forum engagement, etc.
5. Community Events Pool: The Community Events Pool incentivizes users to be an active member of the data science community when they attend, volunteer, and organize offline and online events. Campus Ambassadors are also incentivized by means of this pool.
6. Bounty Pool: The Bounty Pool helps maintain the software backing bitgrit's platforms as it incentivizes developers to hunt for bugs, contribute in development, etc. in exchange for GRIT.

Token Flow



The bitgrit platform runs entirely on the GRIT token. Given that some of our clients cannot hold a cryptocurrency wallet due to corporate policies, country restrictions, and security reasons, bitgrit accepts client payments in fiat currencies. The client is legally brought

on board by presenting the project as a service offering in exchange for payment in fiat currencies. If a sales partner is involved in bringing a client to bitgrit, the partner is incentivized with GRIT token. After processing the fiat payment from the client, bitgrit allocates a portion of its Ecosystem Reserve to a dedicated crypto account for the client. This dedicated account contains tokens that can be purchased with fiat currency according to the exchange rate at that point in time. This allows bitgrit to carry out the GRIT-related transactions on behalf of the client without the client having to own a crypto wallet or possess GRIT.

In addition to payment, bitgrit asks its clients to provide any relevant data sets that they possess and ascertains the business problems that the client seeks to address with the project. This data is either used directly or it is forwarded to our consulting partners to derive a structured problem statement based on the interests and needs of the company, structure and anonymize the data, and develop a mathematical model of evaluation. If a consulting partner's services are utilized, that partner is also incentivized with GRIT. In general, any kind of partner that bitgrit associates with must stake some amount of money to acquire a partnership license and participate in auctions that correspond to business for the partners. The partners draw tokens against fiat by means of the Partnerships Pool. This is explained in detail in the Partners section.

The clean, structured, and anonymized data is added to the data set pool, which is the primary asset that backs GRIT. This data – in addition to the problem statement and the mathematical model – is the input parameter to the competition platform. When the parameters are pushed onto the platform, a particular number of GRIT token are staked from the account dedicated to the corresponding client. This GRIT is used for smart contracts that allow for distribution of prize money, payment to the necessary partners, and other processes involved in running a competition on the bitgrit platform. Once these initial processes have been completed, a competition is launched on the platform that calls for participation from the data scientists.

Contrary to the clients, data scientists must create their own bitgrit wallets. They are incentivized in multiple forms, such as registration, profile completion, referrals, participation, etc. from the Data Science Community Pool. Further incentivizing data scientists is the prize money that they are awarded for outranking other models within the platform. They are also incentivized from the Community Events Pool for being an active member of the community when they attend, volunteer for, and organize offline and online events. As for the data scientists, they work on the competitions that are launched on the platform and submit their AI models, thereby adding value to both the data set that they are operating on and the overall Data set Pool at large. These models are also made available on the AI Marketplace where they showcase their models by staking them with GRIT token.

The platform scores the models that it receives from the data scientists based on a mathematical model derived from the client or consulting partner. All submissions are ranked on the leaderboard and at the end of each competition, the top three models are selected and awarded with prizes in the form of GRIT token. The top performing

models and their relevant data are hosted by the cloud partner to provide crowdsourced AI. An API is made available to the client which can be called for use, and the associated recurring billing is used to incentivize the cloud partner in GRIT as well as the data scientist who formulated the model. Similarly, in the AI Marketplace, whenever a customer utilizes the model showcased by the data scientist, that data scientist is incentivized for his contributions that have been recorded on the blockchain. Legally, the intellectual property of the model and the data (if not proprietary by the clients) are held by bitgrit, but the revenue is shared with the data scientist and the cloud partner based on their contributions and services.

In the entire process, bitgrit extracts revenue from the services that it provides which are pushed into the Reserve Pool. The Reserve Pool provides bitgrit with funds for its operations, research, development, etc. In addition, it is used to fund the Ecosystem Reserve whenever needed and increase the token decentralization by means of the release and burn model. In the release and burn model, the reserve is diluted each month by a specific amount such that the token appreciation on account of burning equates to the token depreciation on account of release in the market.

The data scientists as well as the partners can access their wallets on the platform itself, which facilitates them with the option to sell their tokens at any given point in time, sell at a particular price, and transfer to or from an external Ethereum wallet. All their earnings on the platform are visible and reflect their prowess as a data scientist or a partner.

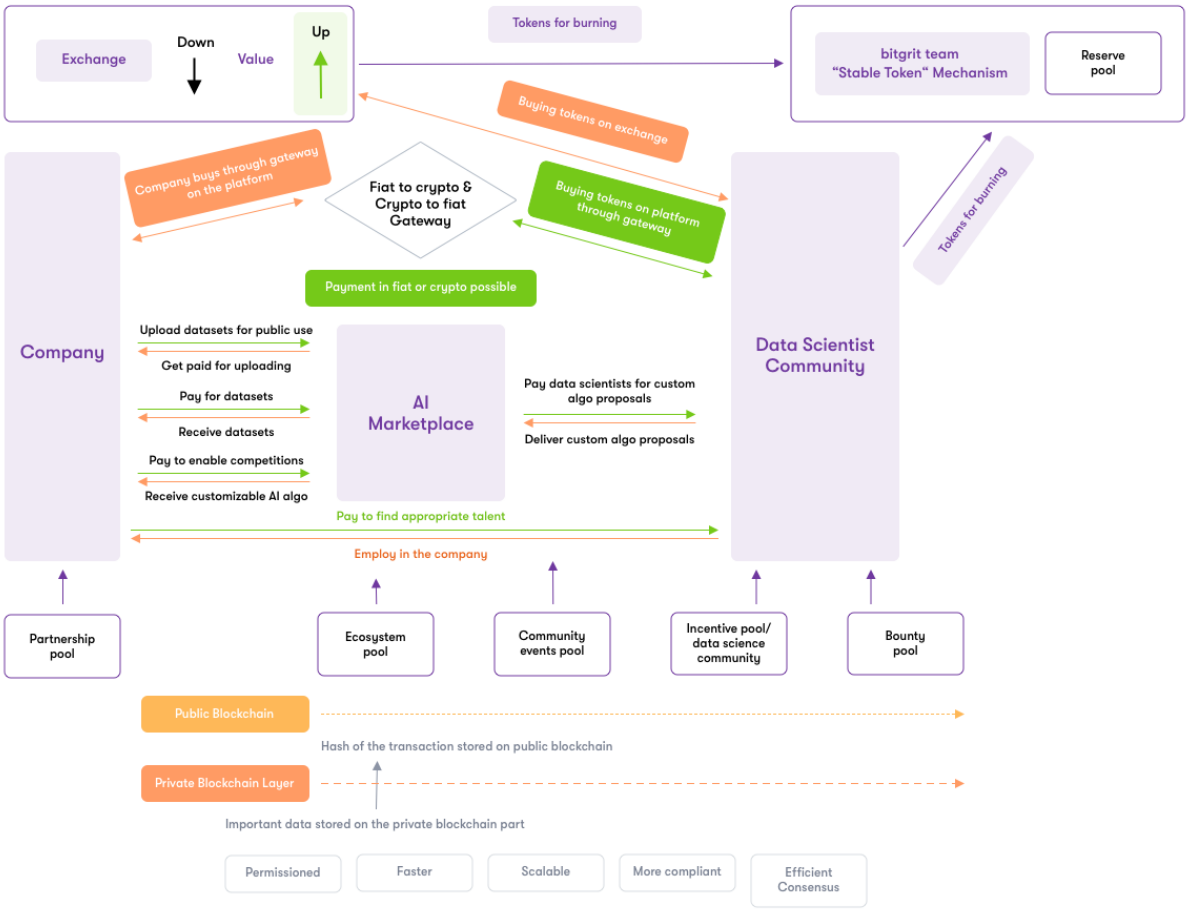
In essence, the bitgrit platform establishes a one-directional flow wherein companies exchange fiat currency for tokens to use within the platform, and data scientists as well as partners can only sell using the platform. This allows bitgrit to keep the data scientists' holdings separate from the investors' holdings while using the same GRIT token.

Token Economy

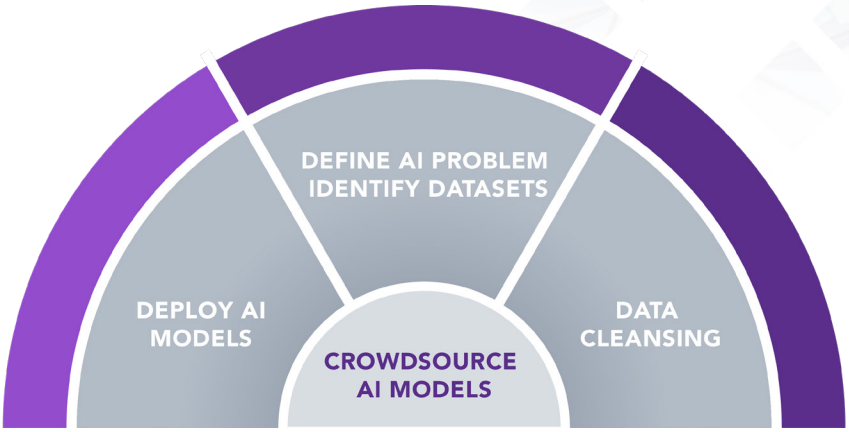
To achieve mainstream adoption, bitgrit overcomes three common issues: investor-centered ecosystems, unbalanced token economies, and UX problems.

This is achieved by:

- Rewarding contributors who participate and create value in the ecosystem
- Having an economic model that is balanced and interconnected
- Designing for the target users, making it easy for everyone to use



Partner Model



A variety of world-leading companies partner with bitgrit for the provision of supplementary services from data exploration to model deployment to ensure that all the clients' needs are met in one consolidated offering. These partners stake tokens in order to be listed on bitgrit's partner ledger and avail access to the business opportunities facilitated by bitgrit in case of consulting, data or cloud hosting partners, and avail commissions in the form of GRIT tokens in case of sales partners.

This aggregation of different service stakeholders allows bitgrit to provide a comprehensive crowd-based AI service to its clients while making a host of different opportunities open to its partner companies. In most cases, any such opportunity is fed into the partner auction portal and offered to the partner that best aligns with the required skill set, while also providing an estimate of the minimum amount in terms GRIT.

Token Metrics

Global Metrics	
Token Name	bitgrit Token
Token Symbol	GRIT
Token Protocol	ERC-20
Token Type	Utility
Total Supply	1,000,000,000
Decimals	18

Token Distribution	
Stakeholder	Distribution
Early Investors	6.00%
Team and Advisors	13.00%
Co-Founders	6.00%
Data Science Community	10.00%
Reserve Pool	32.00%
Ecosystem Reserve	20.00%
Partners	5.00%
Community Events	5.00%
Bounty	4.00%
TOTAL	100.00%

Token Utility

To ensure that the token becomes a core constituent of the bitgrit's ecosystem, it has been integrated with a majority of the platforms' components.

User Profile	Distribution	• User Referral • Sharing our platform on social media • Participating in campaigns run by bitgrit • First 'x' comments on a bitgrit post on the various social media platform will be given 'y' number of tokens • Extra bonus for sharing a platform on blockchain crypto-specific channels and forums (eg. specific threads on Reddit) • Multi-level referral system
	Incentive	• 'X' number of tokens will be for first 'y' signups • 'Z' number of tokens will be given to the next 'a' signups and so on • 'X' number of tokens will be given if your profile is 50% complete • 'Y' number of tokens will be given if your profile is 100% complete • 'X' number of tokens will be given upon connecting each supported social media profile • 'X' number of tokens will be given upon setting up profile picture
	Utility	• Data scientists can use tokens to increase their profile visibility • Data scientists can stake tokens to increase trust on their profile

Public Data sets	Distribution	• Participating in social media campaigns related to data sets (eg. campaigns run by bitgrit asking the community to provide a specific data set). If a user works for that campaign, they will receive some tokens. • Other distribution mechanisms similar to the user profile
	Incentive	• 'X' number of tokens will be given for first 'y' users who upload data sets and so on • Extra incentives will be given to users uploading rare and critical data sets • Tokens will be given to the users vetting data sets • Tokens will be given to the publishers of top-rated data sets • Other users and competitions purchasing your data set • Moderators of data set token-curated registry (TCR) will get some tokens in lieu of their services to the platform
	Utility	• 'Y' number of tokens will be given if your profile is 100% complete • 'X' number of tokens will be given upon connecting each supported social media profile • 'X' number of tokens will be given upon setting up the profile picture • Data scientists can use tokens to increase their profile visibility • Data scientists can stake tokens to increase trust on their profile

Competition	Distribution	• 'X' number of tokens will be given for sharing any existing competition on various social media platforms • Referring companies to launch competitions on our platform • Referring data scientists to participate in our competitions • Extra incentives to be given to the participants of competitions run during events like WDSF
	Incentive	• 'X' number of tokens will be given to first 'y' participants • 'X' number of tokens will be given to first 'Y' fastest submissions • Tokens will be given to the winners of a competition • Tokens will be given for rating a given competition • Tokens will be given to the moderator of the competition TCR • Tokens will be given to the judges of the competition
	Utility	• Tokens will be required to launch a competition. First 'x' competition(s) will be free to launch • Prize money of the competition can be given away in tokens • Tokens will be required to attach data set to a competition • Tokens will be required to put competition into a TCR • Token holders can rate competitions listed in a TCR. Participants on the basis of TCR can decide whether to participate in a competition. • Token holders can also vote to accept/reject a request to launch a competition on the platform • A separate TCR for the judges of the competition will be created. To become the judge, you will have to stake 'x' number of tokens. • This judge TCR will be responsible for judging the competition • The token-holder community can look out for the corruption and decide to throw corrupt judge out of the TCR and confiscate their stake • DS can sell IP rights of an algorithm developed during the competition. Tokens will be required to purchase an algorithm developed during the competition. • Tokens will be used for an algorithm TCR. All the utilities associated with other TCRs are also applicable here.

Job Board	Distribution	• Token provided to people who share a job posting that someone is placed in because of their referral • Token provided if someone introduces a client to us who wants to hire and posts a job • Extra token provided to first 'x' candidates who get a job through our platform, accept the job, and start working there
	Incentive	• 'X' number of tokens will be given to first 'y' job applicants • 'X' number of tokens will be given to first 'y' select profiles
	Utility	• First 'x' job posting will be free • Next 'x1' job posting will cost 'y1' GRIT • Next 'x2' job posting will cost 'y2' GRIT, etc. • Token will be required for putting job posting into TCR • Token holders can rate job postings in a TCR. On the basis of TCR, participants can decide whether to apply for the job posted. • Ideas similar to competition TCR can be used here
Workspace	Distribution	• Community members who get data scientists to write models using our workspace and our data sets will receive tokens
	Incentive	• First 'x' workspace will be free to create for first 'y' users but will start costing 'x' GRIT from a certain point • First 'x' users who share their working workspace (on a data set) on social media will receive 'x' amount of GRIT • First 'x' highly-voted workspaces will receive extra GRIT for each 'y' upvotes • First 'x' users who use workspaces for winning a competition will be given an extra amount of token.
	Utility	• Additional features can be unlocked using GRIT-like ability to download it as Jupyter notebook or upload notebook from one's computer, etc. • To be able to deploy a more powerful workspace (with more RAM, GPU/CPU, etc.) it's going to cost an extra amount of GRIT which will be dynamically calculated

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By participating in the Token Sale, in the event that a Token Sale takes place in the future or has taken place, you must agree to bitgrit's Terms & Conditions (Terms of Use). The GRIT

Token is not legally qualified as a security, since it does not give any rights on dividend or interest. Any purchase of GRIT Token(s) is final and non-refundable. The GRIT Token is not a share and does not give any right to participate in the general meeting or assembly of the Company in regard to executive matters. The GRIT Token cannot have a performance or a value outside the bitgrit platform or other affiliate platforms. The purchase and use of GRIT Token shall therefore not be undertaken for speculative purposes.

Acquisition of GRIT Token does not present an exchange of cryptocurrencies for any form of ordinary shares of the Distributor and a GRIT Token is not entitled to any guaranteed form of dividend and/or any other rights whatsoever.

Risk Statements

Prospective acquirers of GRIT Token should carefully consider and evaluate all risks and uncertainties associated with cryptocurrencies, bitgrit, their respective businesses and operations, as well as the GRIT Tokens and the GRIT Initial Coin Offering, should an Initial Coin Offering occur. Familiarize yourself with all the information set out in this White Paper, and familiarize yourself with any risk prior to any purchase of GRIT Tokens.

bitgrit neither guarantees nor accepts responsibility for the accuracy, reliability, currency (as of this White Paper) or completeness of this content. Individuals intending to contribute to or participate in the platform are advised to seek independent professional advice prior to acting on any of the information contained in this paper.

Any person intending to acquire GRIT Tokens must be aware that the bitgrit global business model may change or need to be modified because of new regulatory and compliance requirements from any applicable laws in any relevant jurisdiction. In such case, any person undertaking to acquire Tokens acknowledges and understands that neither bitgrit nor any of its affiliates shall be held liable for any direct or indirect loss or damages caused by such changes and that project parameters, dates, specifications provided, as well as other details, technical or not, are subject to change without prior notice.

In addition, bitgrit has the complete freedom to operate or domicile its business(es) anywhere suitable, provided they comply with the regulatory framework of the requisite jurisdiction.

GRIT Tokens are not securities, and participants hereby comprehend and fully accept the fact that GRIT Tokens are not securities under any circumstance, neither are they registered with any government entity as a security.

No regulatory authority has examined or approved any of the information set out in this White Paper. No such action has been or will be taken under the laws, regulatory requirements, or rules of any jurisdiction. The publication, distribution or dissemination of this White Paper does not imply that its contents are compliant with applicable laws, regulatory requirements, or rules.

Ethereum-related risks to GRIT Tokens do exist, as the Tokens will be issued on the Ethereum blockchain thus being dependent on said platform. Participants understand that the functionality of GRIT Tokens or the bitgrit platform may be severely affected should the Ethereum protocol malfunction or fail.

Risks associated with quantum computers, despite the efforts made by the blockchain community to safeguard the security of cryptocurrency technology, in addition to the potential development and deployment of quantum computers or any other kind of advanced types of computers in the future may put the security of cryptocurrency/ blockchain technology at risk. In such a case, GRIT Tokens may be affected as well.

No fund insurance will be provided to participants. Any and all types of funds collected during the Whitelist, PRE-ICO, and ICO periods, if any of these undertakings are conducted or planned, are in no way insured. Funds may lose their value in part or completely without warning. There is no insurance company private or public that will be able to cover the participant should unfavorable circumstances occur in relation to the funds provided.

Restricted Areas

Acquiring and storing GRIT Tokens involves various risks, among them being that bitgrit, with its affiliates, may not be able to launch its operations and develop its platform that is intricately tied to the Token. Therefore, prior to acquiring GRIT Token, you should carefully consider the risks, costs, and benefits of acquiring GRIT Token. Within the Crowd Sale or fundraising efforts, should they take place or have taken place, citizens, residents (taxpayers or otherwise) and green card holders of the United States of America, China, Japan, or other U.S., Chinese, or Japanese Persons are excluded from buying GRIT Tokens. The term “U.S., Chinese, or Japanese Persons” refers to anyone who lives in the United States, China, Japan, or any entity that is incorporated under American, Chinese, or Japanese Law. American citizens living abroad can also be considered “U.S. Persons” under certain conditions.

After reading this White Paper, you may decide to take part in the development of new Decentralized Security, dedicating your knowledge, time and financial resources prior to contributing. Therefore, by reading this text, you assume the unconditional obligation that, in the event of being a citizen of the U.S., China, Japan, or any other country, in the event that there results any lawsuit with any claimant where your name is featured as an involved party, we receive a guaranteed right to charge you as a private party for the full amount of losses, including any fines or legal costs, including in the event of you using software (VPN, etc.) to conceal your true country of residence.

This White Paper, or any part thereof, as well as any copies, must not be taken or transmitted to any country where distribution or dissemination of this White Paper is prohibited or restricted. The bitgrit crowd sale, should it be conducted or have been conducted, is subject to and governed by the Laws of Japan to the exclusion of any

International Treaties. Should any dispute arise with you and bitgrit, you and bitgrit agree to seek an amicable settlement prior to taking any legal action. All disputes arising from or under the White Paper are ruled by the Terms & Conditions accepted by you during the crowd sale, if conducted or planned to be conducted, and shall be resolved by arbitration in accordance with Japan's Rules of International Arbitration. The arbitration panel shall consist of one arbitrator only. The seat of the arbitration shall be in Japan unless otherwise informed by bitgrit prior to its start. The arbitral proceedings shall be conducted in English.