Riemann COMPUTING

We Aim to Build Paradigm Shifts In Computing, Society, and Space.

Pitch Deck 2026

Introduction To Riemann Computing Inc.

Riemann Computing Inc., (which was previously known as the Stark Drones Corporation), has had humble beginnings prior to its founding in 2018.

About Us

We Want to Build a Wide Variety Of Technologies Centered Around Disrupting Telecom & Infrastructure As Industries.

Riemann Computing's core technology is data compression and we have a wide IP portfolio of various different technologies.

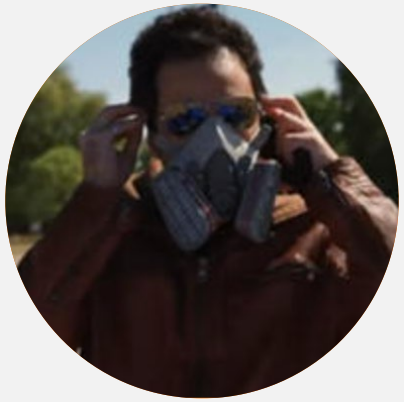
Our goal is to create horizontally scalable solutions that have the potential to massively disrupt society.

Our Team

We have a team of over 12 people. Here are just some of the people involved with Riemann Computing.

Andrew Kamal

Founder

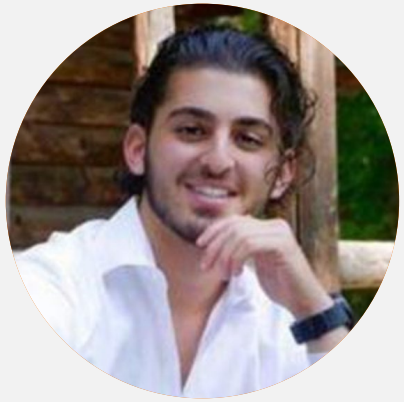


Joe Mansy

Project Engineer

Beshoy Saad

Production and Media



Luke Yaldo

Advisor

Andrew Kamal

Founder of Riemann Computing Inc.

Andrew has built technologies for over 39+ different startups and projects.

He has expertise in Quantum Engineering, Data Compression and various aspects of research.

Organizational Leadership

Technical Execution

Research Skills

Riemann COMPUTING

Processing Data is Expensive.
Storing Data is Even More Expensive.

Our Why?

Target Cost Reduction For Storing & Processing Data.

90%

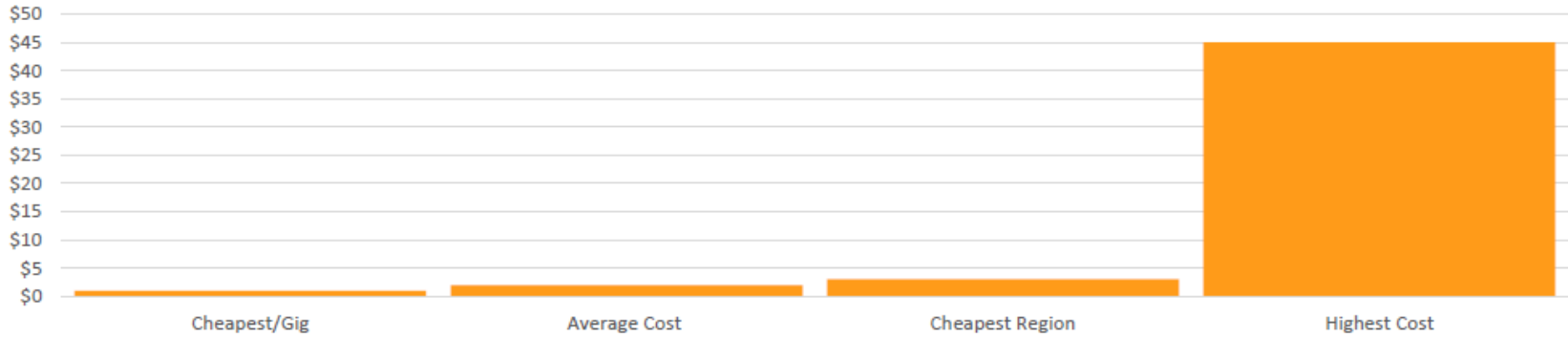
Our Why?

Our System Allows for an Over 90% Reduction Cost in Data Storage.

Aggregate stats

19 m 11 s	
wall time	
0.0 CPU hours	
CPU time	
15.93 GB	
total memory	
2.36 GB	1.60 GB
read	write
$0.001	
estimated cost	

If we can replicate this for even 1 gig of processing, the $0.001 would be 20x cheaper than the #1 player in the world, however, we processed much more than that, so if similar to raw encoding it can be 300x cheaper, and the actual number depends on the opportunity for a test deployment.



Country Data Source(s)

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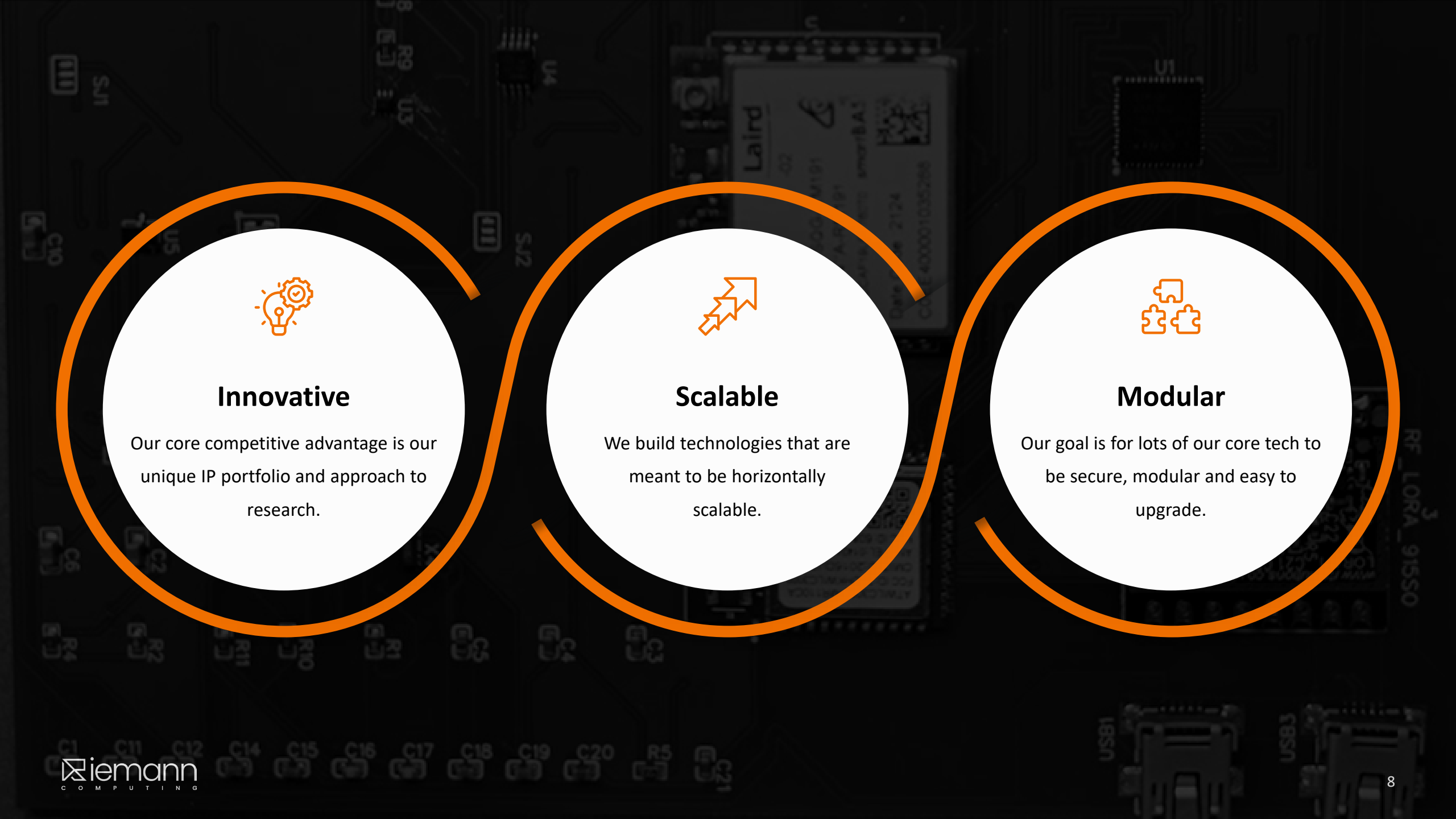
https://blog.talkhome. co.uk/technology/15g b -of-data/

Our Data:

https://www.starkdrones.org/launches/our-data



Innovative

Our core competitive advantage is our unique IP portfolio and approach to research.

Scalable

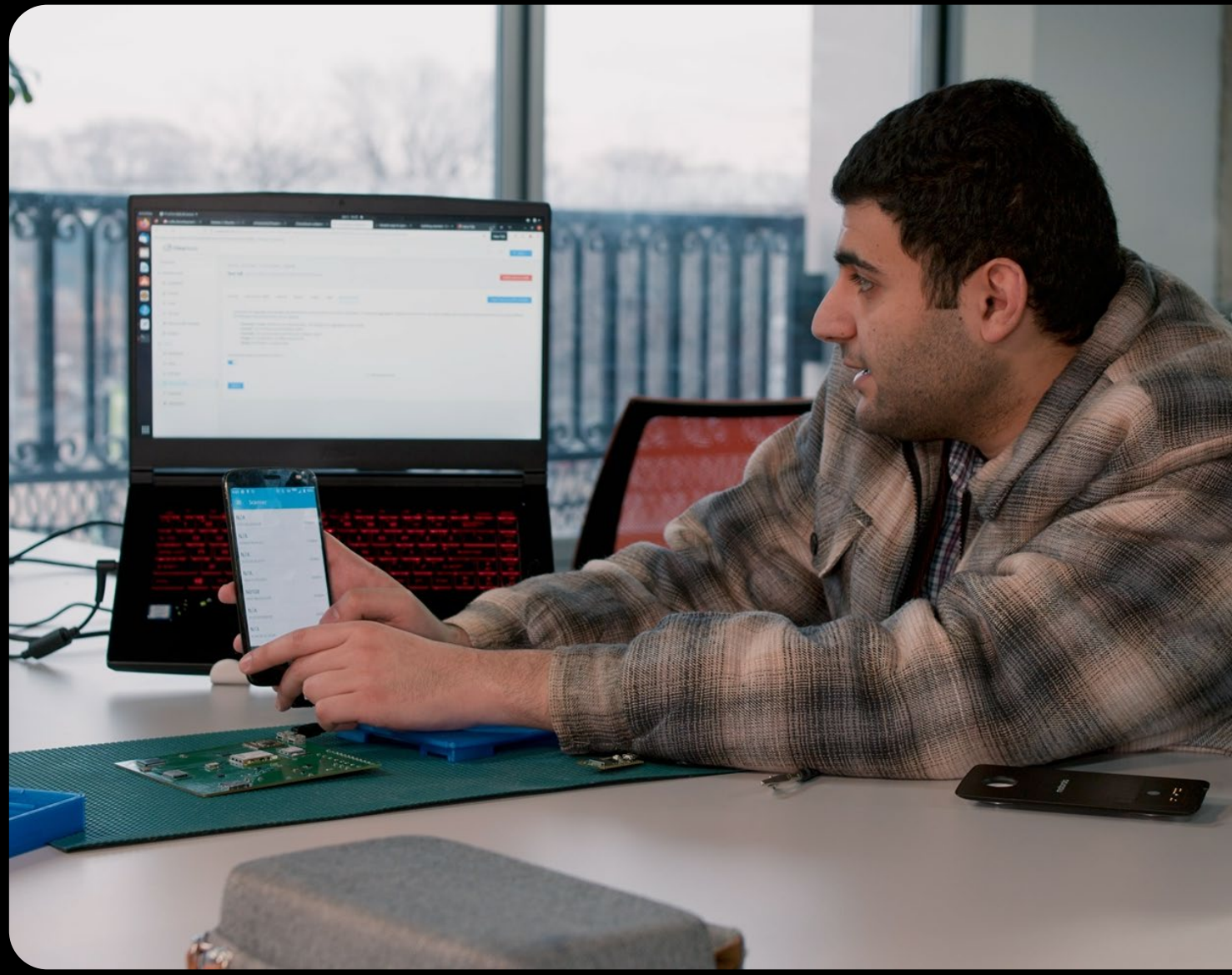
We build technologies that are meant to be horizontally scalable.

Modular

Our goal is for lots of our core tech to be secure, modular and easy to upgrade.

Compute Modules

We don't just have better software, but we also aim to create physical hardware and computing paradigms specialized at processing data more efficiently.



SWOT Analysis

S

Strengths

Cost effectiveness and IP competitive advantage.

Weaknesses

Limited funding and go-to market opportunities have slim timelines for waves of innovation.

W

O

Opportunities

Rise of data centers and the need for energy and infrastructure efficiency.

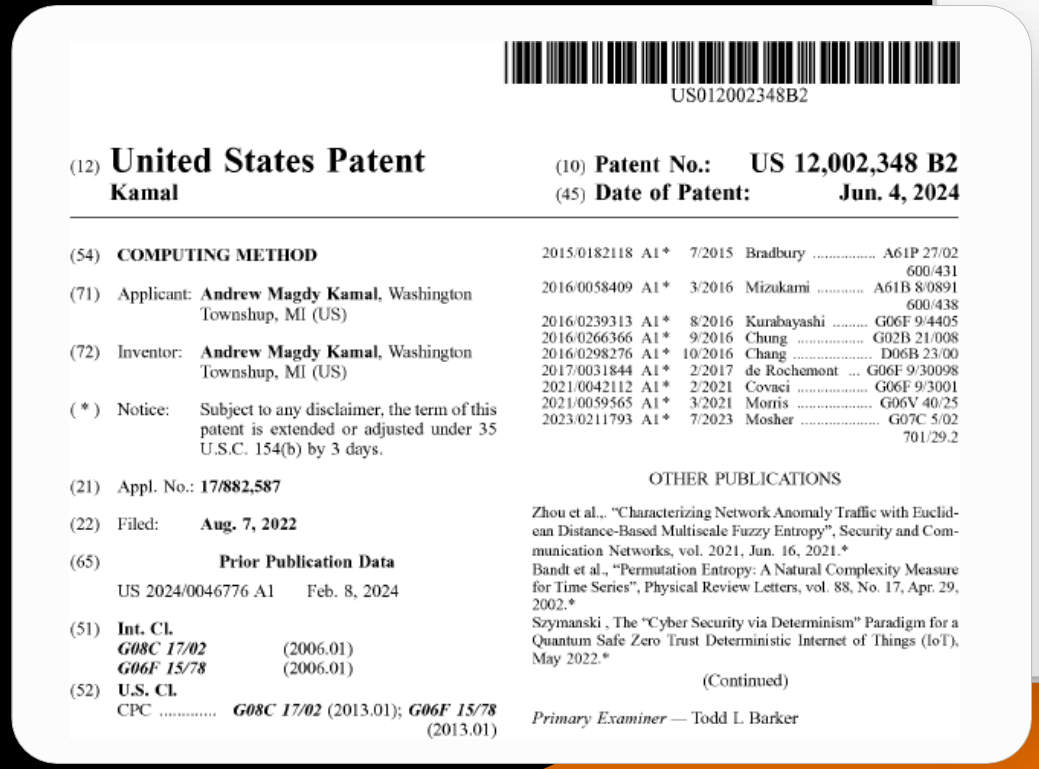
Threats

Very large market players and monopolies. Extremely saturated and costly. Heavy regulations.

T

Core Technology

We Compress Network Packets & Have Our Own Proprietary Compute Module Known As Signal Computing.



US012002348B2

(12) **United States Patent**
Kamal

(10) **Patent No.: US 12,002,348 B2**
(45) **Date of Patent: Jun. 4, 2024**

(54) **COMPUTING METHOD**

(71) Applicant: **Andrew Magdy Kamal**, Washington Townshup, MI (US)

(72) Inventor: **Andrew Magdy Kamal**, Washington Townshup, MI (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 3 days.

(21) Appl. No.: **17/882,587**

(22) Filed: **Aug. 7, 2022**

(65) **Prior Publication Data**

US 2024/0046776 A1 Feb. 8, 2024

(51) **Int. Cl.**
G08C 17/02 (2006.01)
G06F 15/78 (2006.01)

(52) **U.S. Cl.**
CPC ***G08C 17/02*** (2013.01); ***G06F 15/78*** (2013.01)

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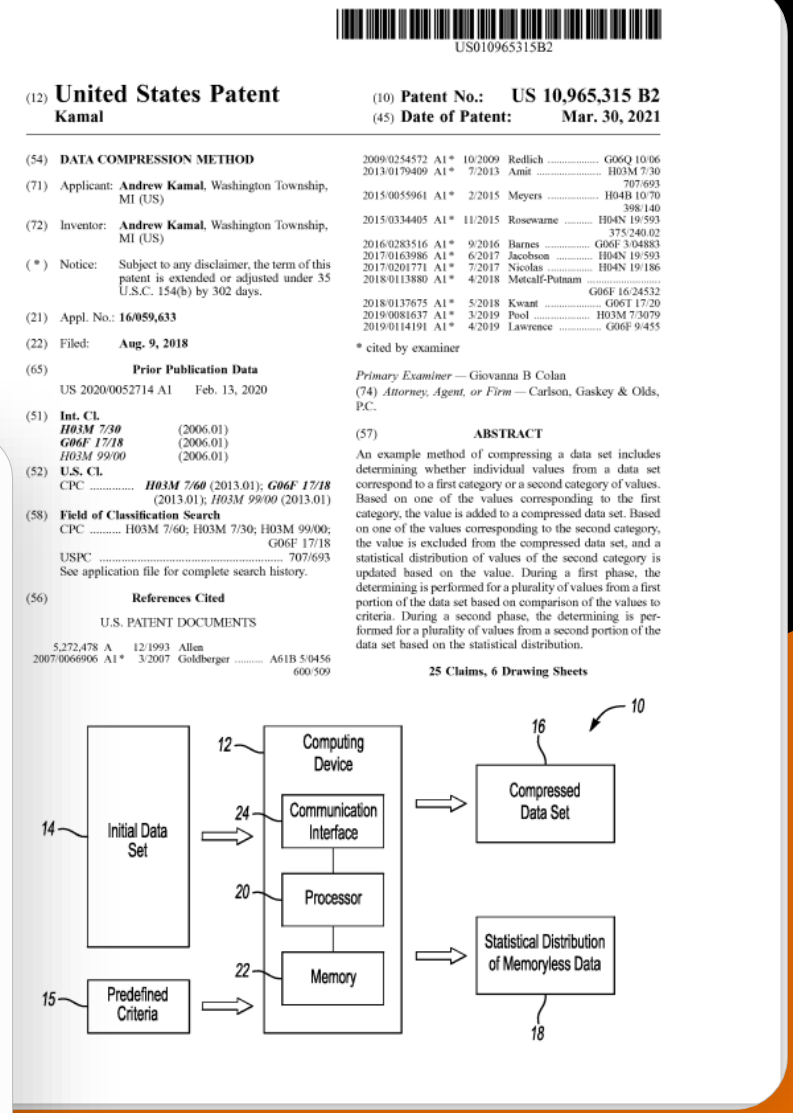
(Continued)

Primary Examiner — Todd L. Barker



US010965315B2

(12) **United States Patent**
Kamal

(10) **Patent No.: US 10,965,315 B2**
(45) **Date of Patent: Mar. 30, 2021**

(54) **DATA COMPRESSION METHOD**

(71) Applicant: **Andrew Kamal**, Washington Township, MI (US)

(72) Inventor: **Andrew Kamal**, Washington Township, MI (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 302 days.

(21) Appl. No.: **16/059,633**

(22) Filed: **Aug. 9, 2018**

(65) **Prior Publication Data**

US 2020/0052714 A1 Feb. 13, 2020

(51) **Int. Cl.**
H03M 7/30 (2006.01)
G06F 17/18 (2006.01)
H03M 99/00 (2006.01)

(52) **U.S. Cl.**
CPC ***H03M 7/60*** (2013.01); ***G06F 17/18*** (2013.01); *H03M 99/00* (2013.01)

(58) **Field of Classification Search**
CPC H03M 7/60; H03M 7/30; H03M 99/00; G06F 17/18
USPC 707/693
See application file for complete search history.

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Primary Examiner — Giovanna B Colan
(74) *Attorney, Agent, or Firm* — Carlson, Gaskey & Olds, P.C.

(57) **ABSTRACT**

An example method of compressing a data set includes determining whether individual values from a data set correspond to a first category or a second category of values. Based on one of the values corresponding to the first category, the value is added to a compressed data set. Based on one of the values corresponding to the second category, the value is excluded from the compressed data set, and a statistical distribution of values of the second category is updated based on the value. During a first phase, the determining is performed for a plurality of values from a first portion of the data set based on comparison of the values to criteria. During a second phase, the determining is performed for a plurality of values from a second portion of the data set based on the statistical distribution.

25 Claims, 6 Drawing Sheets

Intellectual Property

7 Patents (1 Cited by IBM) and Multiple Trademarks

Our Compression Algorithm, US 16/059,633, was granted and has since been cited by both RedHat and IBM.

We have a communications protocol patent, ZA 2019/01105 that was filed on Feb 21, 2019, which is for a "Low-Frequency Enabled Bluetooth GUI for P2P Device Identifier Communication" pending in South Africa.

For August 8th, 2019, our Compression Patent application was filed in China through CN 201910729783X. It has since been granted.

We have a Computing Method patent (US 17/882587) filed on Aug 7th, 2022, that is granted.

We have design patents as well such as one for a Modular Space Plane, US 29/852,695 (Sep 8, 2022) and pending, and an Aeronautical Propulsion Board, US 29/861,864 (Dec 3, 2022) and granted.

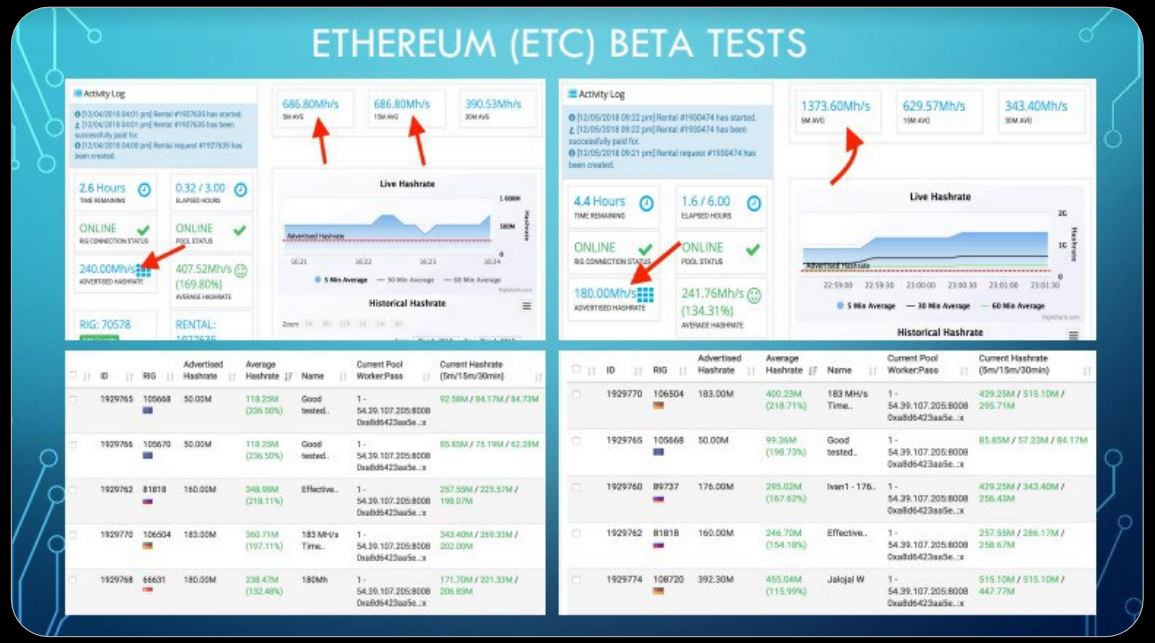
We have a word mark application for NASCRIPT (NaScript), a programming language that has been in development. Its serial number is 97319685 and it has been granted. It was filed on Mar. 18, 2022 and registered on Nov. 21, 2023.

Riemann Computing Inc., is also working on various research disclosures, licenses, and programming languages. NaScript is just the most recent, but it is also developing the languages known as LonScript and ScrubScript.

The founder of Riemann Computing, Inc. has a largely prolific research history.

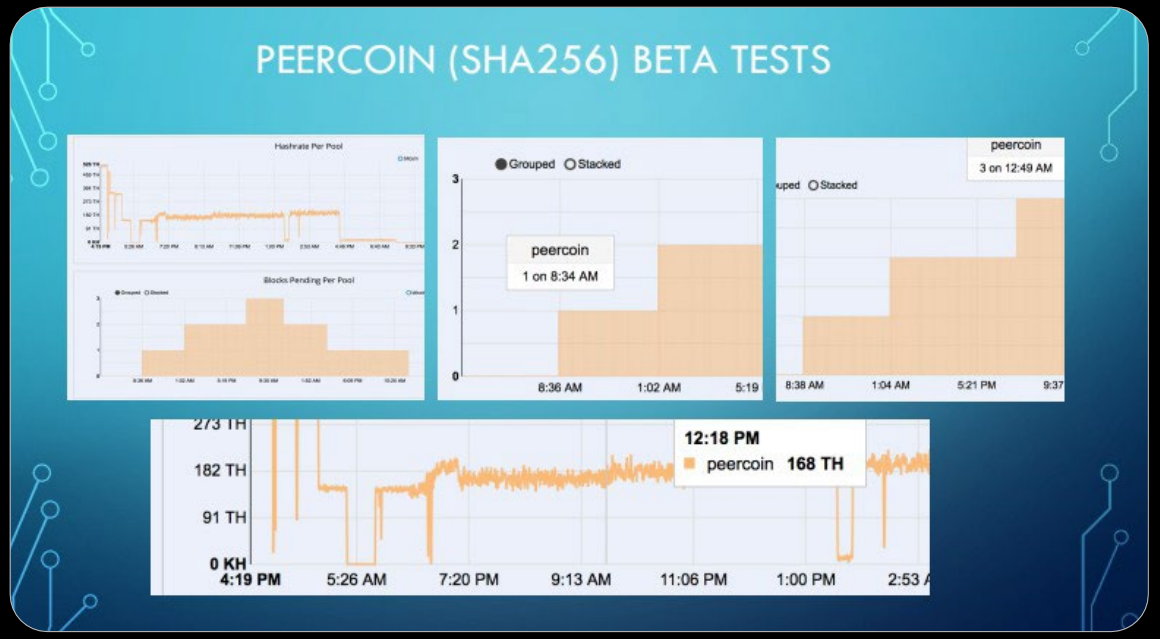
Example Usecase

Crypto Mining



POW Ethereum

We done tests when Ethereum was mineable and were able to increase hardware efficiency.



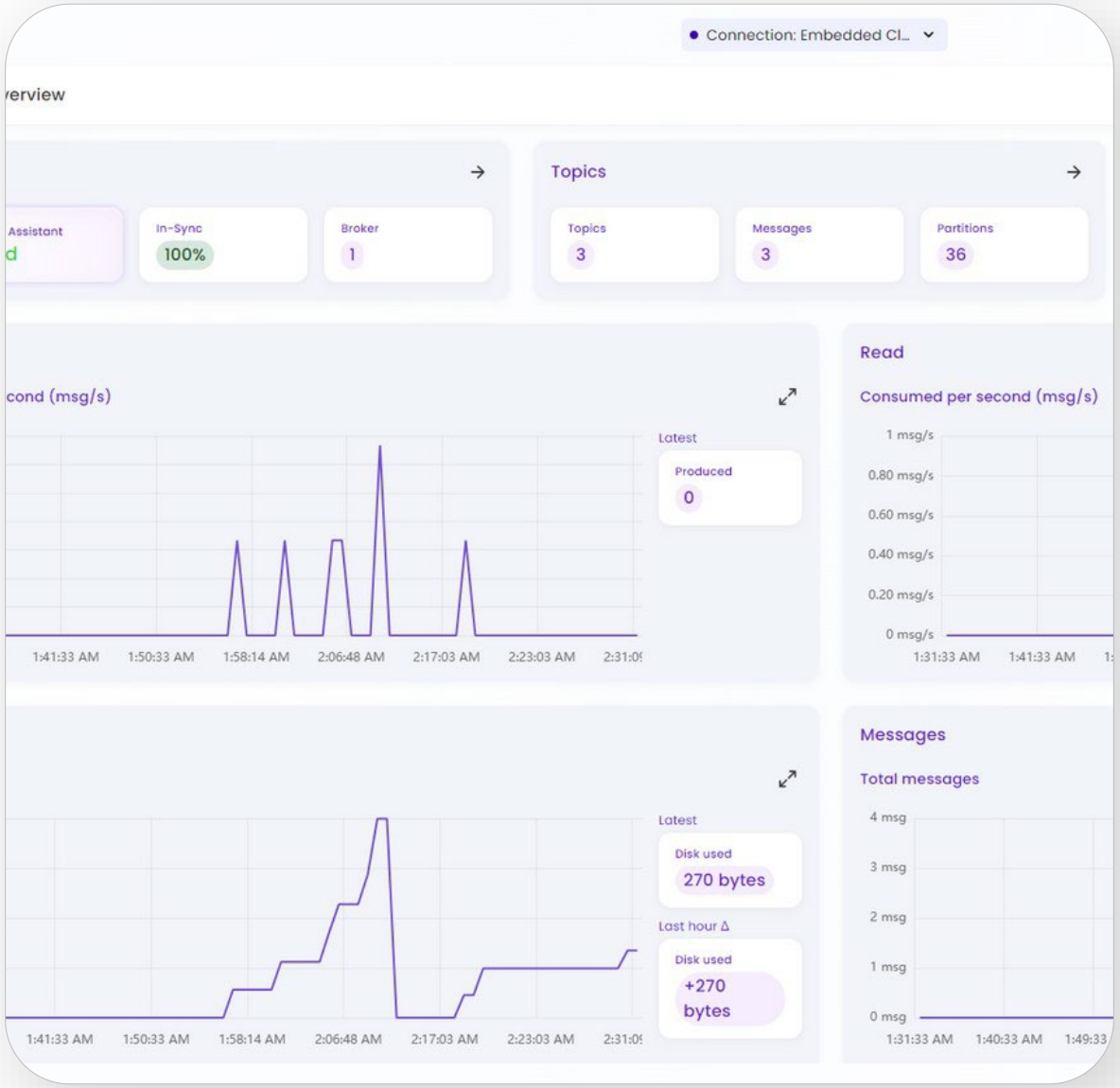
SHA 256 Cryptocurrencies

SHA 256 cryptocurrencies that have lesser hash rates or luck chances can be competitively mined with compression.

Possibilities

Kafka and Data Streams

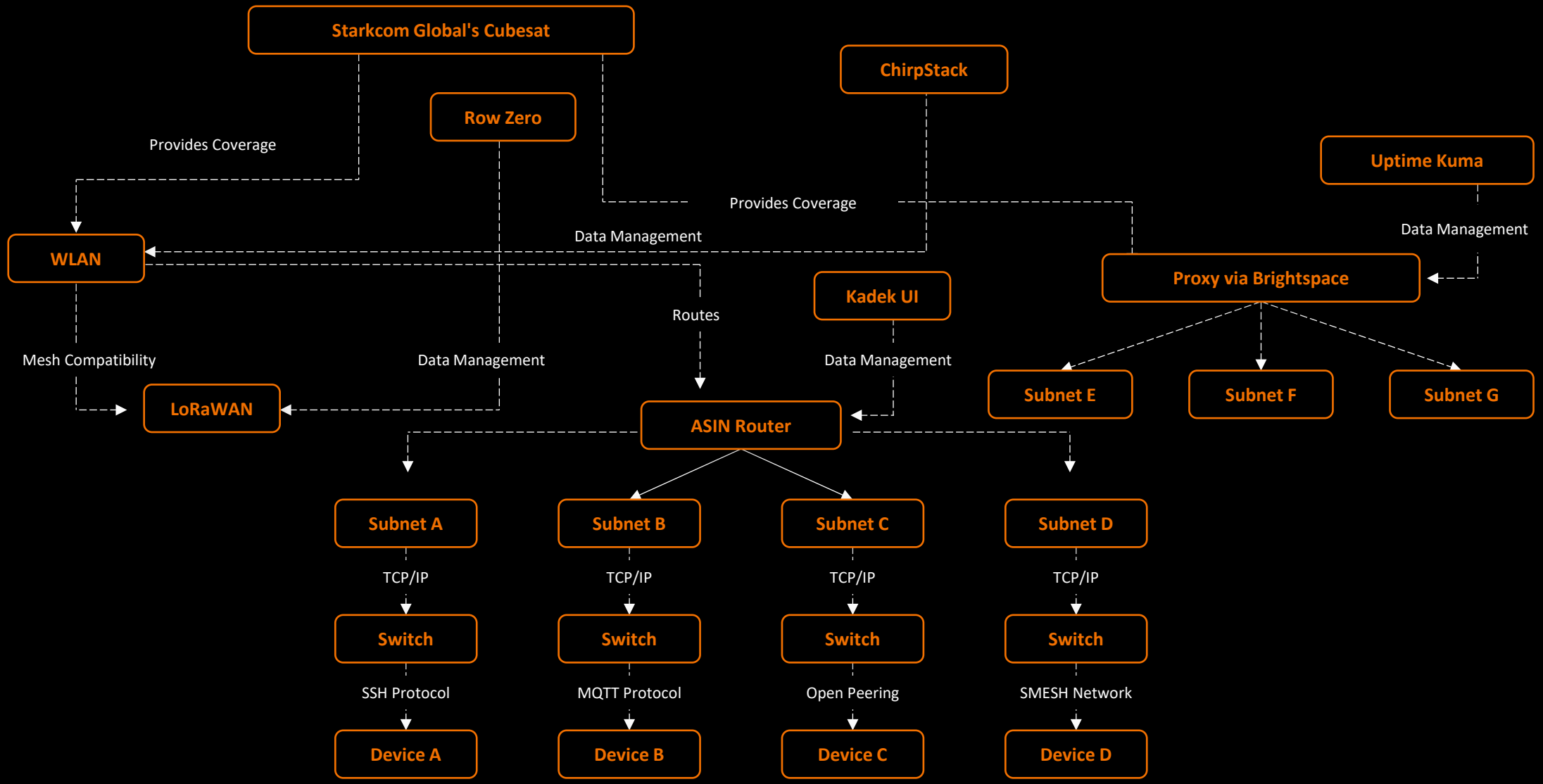
We can create endpoints using Kadeck UI or various other data streams targeting IoT messaging, telemetry and other sectors. We also have our own portal and utilize software like ChirpStack for monitoring connectivity.



Revenue Stream

One of the ways Riemann Computing plans on making money is through the Starkcom Global Network (starkcom.io) which is our proposed ISP network that leverages our core technology.

StarkcomGlobal


Starkcom Global's Cubesat
ChirpStack
Row Zero
Provides Coverage
Uptime Kuma
Provides Coverage
Data Management
Data Management
WLAN
Proxy via Brightspace
Kadek UI
Routes
Mesh Compatibility
Data Management
Data Management
Subnet E
Subnet F
Subnet G
LoRaWAN
ASIN Router
Subnet A
Subnet B
Subnet C
Subnet D
TCP/IP
TCP/IP
TCP/IP
TCP/IP
Switch
Switch
Switch
Switch
SSH Protocol
MQTT Protocol
Open Peering
SMESH Network
Device A
Device B
Device C
Device D

Company Comparison

Internet Service Providers

Feature	Starlink	Amazon Project Kuiper	StarkcomGlobal
Launch Cost per Satellite	$300k	$2.8M	$17.5k
Minimal Speed (estimated) Download/Upload	100/10MBs+	200/50MBs+	100/10MBs+
Price Plan	$499 dish + $99/month Basic	$569 dish + $110/month Basic	Gateways included with launch + ~$5/month Basic

* Starkcom Global Satellites are meant to offer connectivity to an only estimated 7500 people per sat and are locally targeted solutions.
* You can learn more via the FAQs section of the Starkcom.io website.

Other Models

We want to offer a cost per gig processed approach for partnering with data centers.

Value Pack

$0.10

Cost per gig for people storing 5TB or less.

Standard Package

$0.01

For people storing between 5TB and 250TB (enterprise target).

Max Pack

$0.005

Cost per gig for people storing over 250TB.

Our AI

We publish top tier models.

We created the OpenPeer AI family of models and are working on cutting edge research.

We believe artificial intelligence and LLMs don’t need to be so resource extensive.

Target Peer Network Efficiency

85%+

Demo variations of OpenPeer AI models and research are available for preview via Huggingface and various repositories.

Training Procedure

- **Architecture:** 12-layer transformer with 768 hidden dimensions and 12 attention heads
- **Optimizer:** AdamW with learning rate 5e-5
- **Batch Size:** 8
- **Training Steps:** 10,000
- **Warmup Steps:** 1,000
- **Hardware:** Distributed across peer network nodes

Evaluation Results

Initial testing shows promising results:

- **Final Epoch:** 2
- **Model Size:** 1.82 GB
- **Total Run Time:** 2.5 minutes on Intel UHD Graphics 630
- **Loss:** 7.11
- **Perplexity:** 1223.8
- **Accuracy:** 78.5%
- **Response Coherence:** 82.1%
- **Peer Network Efficiency:** 91.2%

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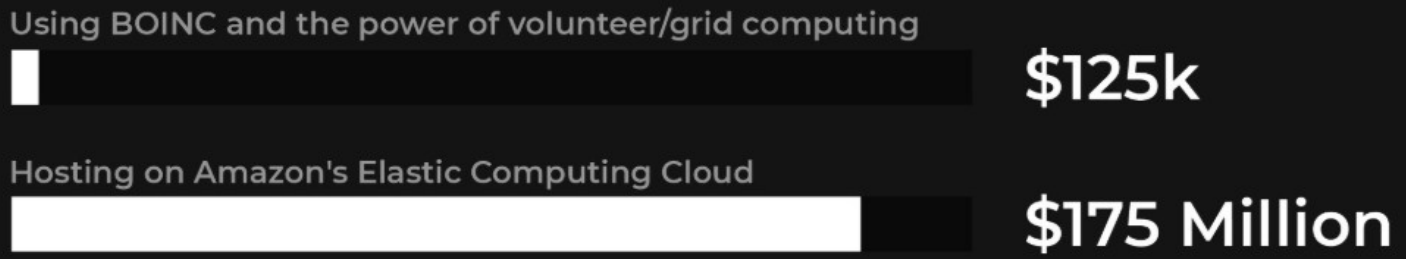
Our SDK

We built the decentralized-internet SDK powered by BOINC.

According to BOINC's website, a small team wanting to process 100 TeraFLOPS for 1 year, would only pay on average $125k using BOINC and the power of volunteer/grid computing as opposed to $175 Million hosting on Amazon's Elastic Computing Cloud. Since BOINC is open-source, the decentralized-internet SDK aims to take that same philosophy and integrate it into the world of decentralized applications. Riemann Computing oversees the distribution of that SDK.



Goal

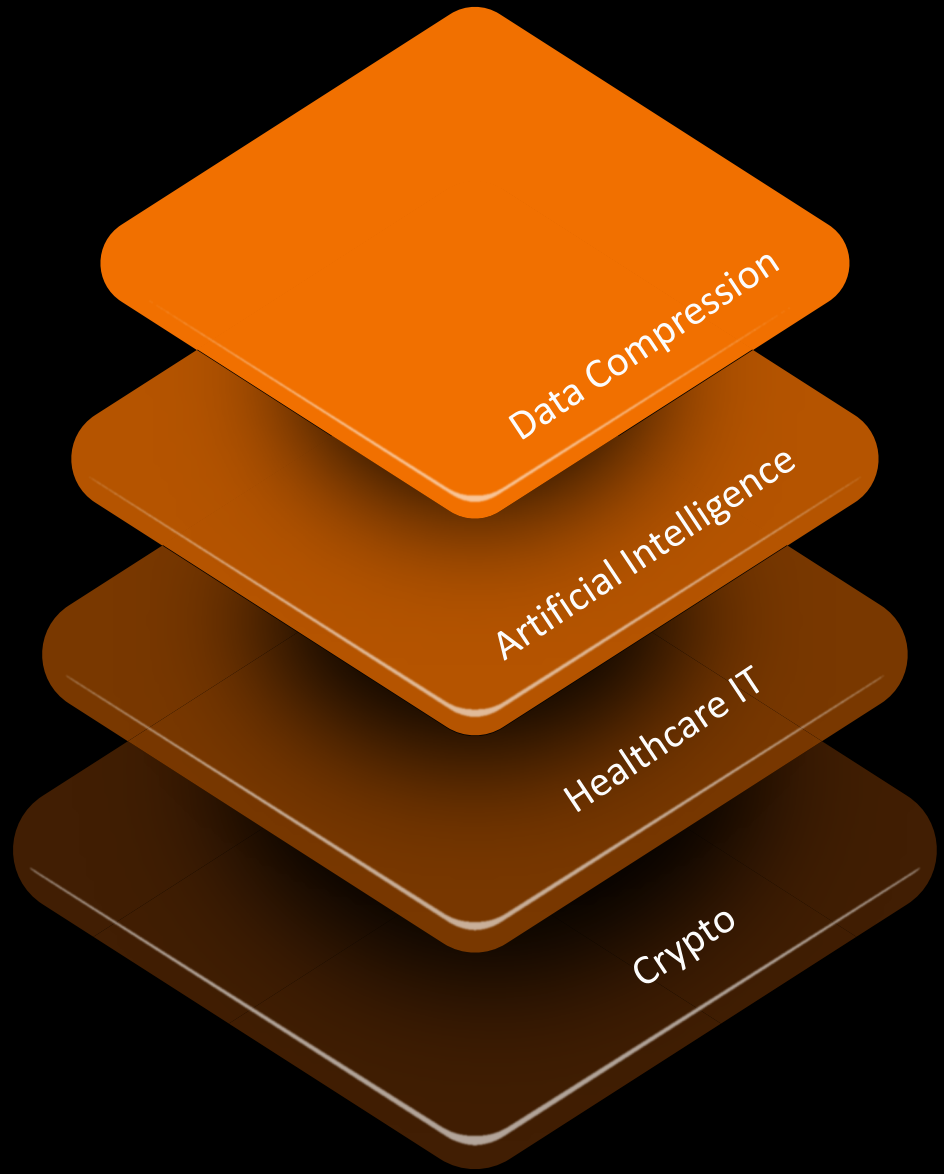
We contribute heavily to the research of high performance computing.

Riemann Computing can leverage its compression techniques on top of BOINC through open peering and the decentralized- internet SDK via an encrypted endpoint. We also plan to utilize software such as Free5gc and Open5gs for hybrid privatized mesh networking solutions and a package called " decentg".

The one industry to rule them all

Data Compression is the jewel

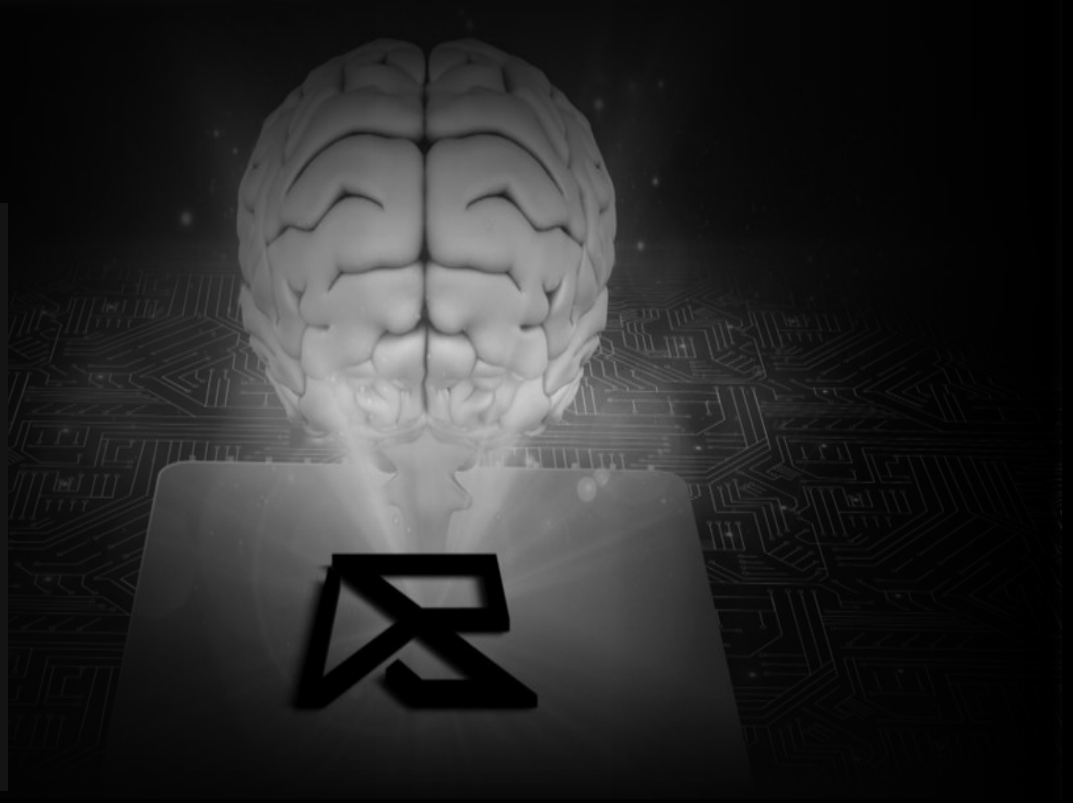
Data Compression is going to be the biggest market need in some of the largest market segments and verticals.



Build Technologies

That Massively Disrupt Society. Create Decentralized Hubs For Innovation.

We are also working on developing and stress testing some machine learning algorithms, including a transcription and translation that focuses on mass translation of ancient books such as the Qumran Caves Scrolls and τὰ βιβλία into some of the world's lesser known/unknown languages. Projects like these can be a testimony into some of our algorithmic capabilities.



Situation Analysis

01. Internet Infrastructure is overburdened, mostly unavailable in rural remote areas, and when available more than half of Africans can't afford it

02. Zambia, and many other African countries don't have power for nearly 12 hours

03. Renewable Energy is fairly limited

Some Accomplishments

Multiple city-approved telemetry balloon test launches

Working on a portable CAES battery system

Tested aquatic wireless networks

Portfolio of communications & telemetry IP

175k developers using distributed computing protocols

Reached 100k YouTube Subscribers (Silver Award) — Oct 14, 2022

Research contributions to medical algorithms & projects

Riemann COMPUTING

We Aim to Build Paradigm Shifts In Computing, Society, and Space.

Thank You For Reading

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