



# BUSINESS PLAN

Decentralized Credential Verification  
for the World.

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# VISION

Aversafe provides a network-based solution to credential fraud, using cutting edge blockchain technology to provide decentralized credential verification and identity management services to jobseekers, employers and educational institutions around the world.

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# VISION

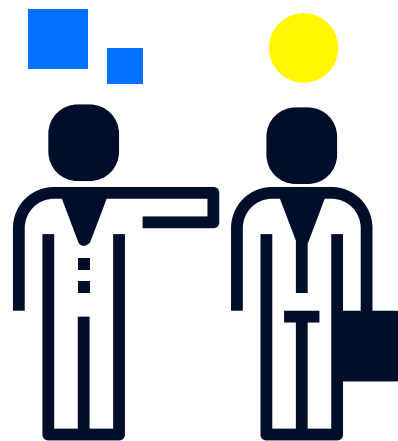
There are more than 3.427 billion people currently employed around the world.<sup>(1)</sup> With more than 77% of organizations planning to expand their workforce in the next year, that number is sure to remain on a steady rise.<sup>(2)</sup> As the global workforce continues to grow, businesses leaders are struggling to find qualified job candidates. A full 62% of employers listed finding qualified hires as the single greatest business challenge of 2017. At the heart of this lingering HR challenge is a single global issue—credential fraud.

Unfortunately, fraud has been part of the hiring process since at least the 19th century, when crooked entrepreneurs began mass producing fraudulent certifications in what are now called diploma mills. Business is still booming for diploma mills, with over 3,000 unaccredited universities worldwide now issuing more than 50,000 fraudulent Ph.D.s each year—more Ph.D.s than are legitimately earned in the same period.<sup>(3)</sup> With the number fake degrees in the international job market increasing with each passing year, resume fabrication has become a nearly ubiquitous issue for employers. In 2017, no less than 85% of employers reported discovering a lie or misrepresentation on a job application.<sup>(4)</sup>

Adding to the problem, traditional hiring methods have long relied on candidates to supply their own resumes and educational certificates, placing the burden of verifying these documents on employers. To verify candidates' credentials, employers turn to third-party background check services. These background check companies operate on a costly and inefficient business model in which every piece of candidate data needs to be re-checked whenever a new request is filed—meanwhile, they fundamentally fail to address the mistrust between jobseekers and employers.

From an economic standpoint, the current background check model introduces unnecessary overheads in

both the time to hire and the cost of continually re-validating data that rarely, if ever, changes. At present, there's not much that either jobseekers or professional bodies can do to rectify the situation, since no single participant in the hiring process has the resources or relationships required to replace the background check industry. And yet, for both jobseekers and employers in today's competitive international job market, the traditional background check model is simply unsustainable. That's where Aversafe comes in.



Aversafe provides a network-based solution to credential fraud, using cutting edge blockchain technology to provide decentralized credential verification and identity management services to jobseekers, employers and educational institutions around the world. Aversafe's services eliminate the need for duplicative background checks while incentivizing participants to pre-certify details, leading to improved trust, lower costs, faster hiring and more efficient capital use for everyone on the network.

1 - <http://data.worldbank.org/indicator/SL.TLF.TOTL.IN>

2 - HireRight Employment Screening Benchmark Report, 2017 Edition

3 - [https://en.wikipedia.org/wiki/List\\_of\\_unaccredited\\_institutions\\_of\\_higher\\_education](https://en.wikipedia.org/wiki/List_of_unaccredited_institutions_of_higher_education)

4 - <https://www.securitymagazine.com/articles/88330-eight-out-of-ten-employers-find-resume-fraud>

# OPPORTU -NITY

An estimated 3.427 billion employees will change jobs an average of 11.7 times in the next 30 years, almost 40 billion job changes without factoring in population, education and employment growth.

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# OPPORTUNITY

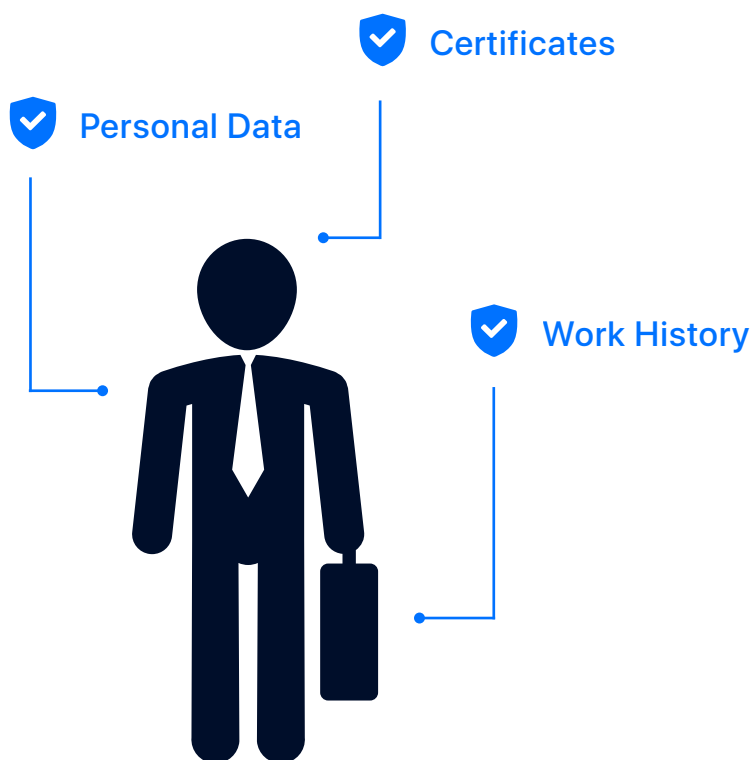
A recent survey conducted by the US Bureau of Labor Statistics found that over a 30-year period, the average employee will change jobs 11.7 times.<sup>(5)</sup> Given the world's estimated 3.4 billion current employees we can conservatively anticipate more than 40 billion job changes in the next 30 years, and that's without factoring in population, education and employment growth.<sup>(6)</sup>

During those 40 billion job changes, employers will seek to build trust with new candidates by running background checks on their provided credentials. This is typically carried out by the background check industry, which has become a significant part of the international hiring process to help employers avoid fraud related losses. On top of the funds lost to severance pay and wasted onboarding efforts, Forbes reports that the typical cost of replacing a single dishonest employee is around 21% of their annual

salary—a statistic which certainly helps explain the \$3 billion businesses spend on employee background checks each year.<sup>(7)</sup>

There is a major global opportunity to reduce overhead costs in the hiring process by building an inclusive ecosystem predicated on the exchange of trusted data. This can be achieved while protecting PII (Personally Identifiable Information) and addressing many of the risks posed by diploma mills.

With employment statistics and market data indicating a steady rise in the financial costs of credential fraud, it seems clear that Aversafe will occupy a growth market over the coming decade. The following sections break down how Aversafe stands to gain market traction while improving the hiring process for jobseekers, employers and educational institutions.



5 - <https://www.bls.gov/nls/nlsfaqs.htm#anch41>

6 - <https://data.worldbank.org/indicator/SL.TLF.TOTL.IN>

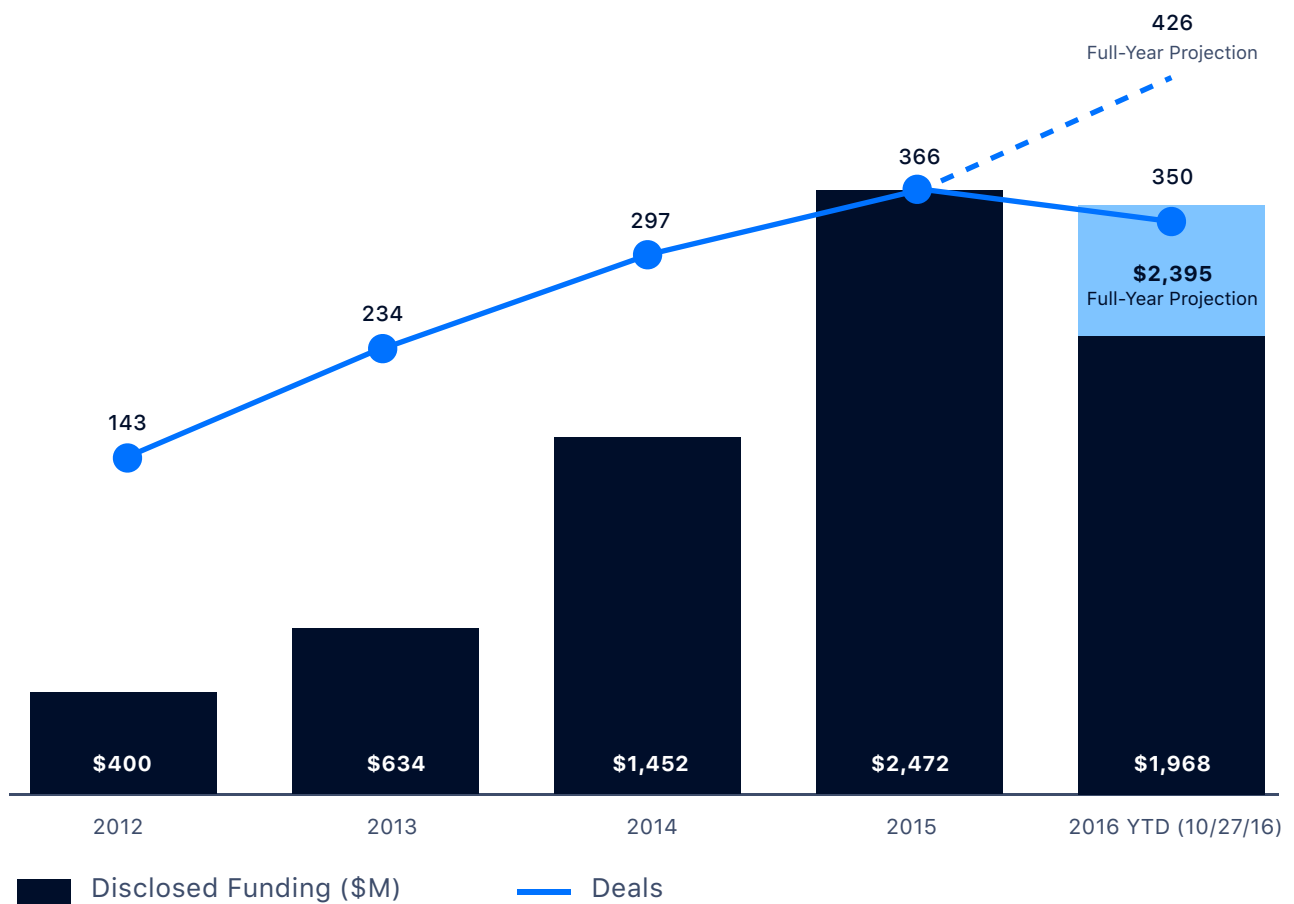
7 - <https://www.ibisworld.com/industry-trends/specialized-market-research-reports/advisory-fincial-services/other-outsourced-functions/background-check-services.html>

### HR Tech Growth

As demonstrated by CB Insights below, the past five years have seen skyrocketing investment in the HR technology industry, which has exploded to more than US\$14 billion. This expansion has occurred as companies have sought to replace legacy

technologies and begin automating and digitizing records previously managed in Excel.

### HR Tech Annual Global Financing History



## HR Technology Integrations

Despite the continued investment in HR technology, a full 62% of employers still consider finding qualified job candidates the single greatest challenge facing companies in 2017.<sup>(8)</sup> While most companies have rushed to adopt applicant tracking systems to help manage candidate pipelines, the hiring process is still beset by challenges.

Because they rely on natural language processing and content based ranking procedures, even the best applicant tracking systems are—on their own— easily manipulated by inaccurate information. By providing access to peer attested and verified credential data, Aversafe significantly improves the accuracy of recommendations made by these systems while simultaneously streamlining the interview and hiring process by establishing a baseline of trust between all parties.

## Credential Verification

Though pioneered over a century ago, diploma mills have continued to flourish. There are an estimated 3,300 unaccredited universities at minimum currently issuing bunk degrees worldwide.<sup>(9)</sup> Recent headlines reveal the full extent of the problem, as diploma mills have impacted high profile individuals at the governmental and even executive levels. In April of 2017 the president of Tanzania was forced to fire 10,000 government employees for holding fake certificates.<sup>(10)</sup> Further examples of high-profile credential fraud that have made recent headlines include:

- *The CEO of a global manufacturer faked an MBA from the Stern School of Business at NYU.*
- *The Dean of Admissions of a prestigious private university claimed degrees from Union College and Albany Medical College.*
- *A technology CEO was fired over a fake computer science degree which was discovered by activist shareholder group Third Point.*



**As Dr. George Brown, academic director of the Think: Education Group reports —**

*it is a matter of recruiters and employers being vigilant. My research found worldwide, close to 30 per cent of senior executives have presented qualifications they didn't hold.<sup>(11)</sup>*

And it's not just the business world that's negatively impacted by diploma mills. Credential fraud also jeopardizes educational institutions, whose graduates, reputations, and alumni endowments are all put at risk.

Aversafe combats diploma mills by allowing for the issuance and attestation of verified certificates from both higher education institutions and professional certifying bodies, thereby preventing fraud and increasing employers' trust in graduates' credentials. Furthermore, a single attestation on the Aversafe platform can be reused for all subsequent employment applications, reducing the number of times a certificate or data point must be verified—a significant improvement over the current background check process.

8 - <http://fortune.com/2016/12/26/businesses-hiring-employment-trump-immigration/>

9 - [https://en.wikipedia.org/wiki/List\\_of\\_unaccredited\\_institutions\\_of\\_higher\\_education](https://en.wikipedia.org/wiki/List_of_unaccredited_institutions_of_higher_education)

10 - [www.reuters.com/article/us-tanzania-corruption/tanzania-says-over-10000-ghost-workers-purged-from-government-payroll-idUSKCN0Y70RW](http://www.reuters.com/article/us-tanzania-corruption/tanzania-says-over-10000-ghost-workers-purged-from-government-payroll-idUSKCN0Y70RW)

11 - <http://www.smh.com.au/national/education/fakes-one-to-know-one-the-best-degree-money-can-buy-20100214-nzn3.html>



## Cost of Bad Hires

While the cost and turnaround time of existing background check services leave much to be desired, there's no questioning their ROI in the hiring process. As reported by the US Department of Labor - "The average 'bad hire' that leaves a company within six months costs the company approximately \$40,000 in severance pay, training, wasted human resource time, possible search firm fees, loss of productivity and impact on employee morale." Furthermore, Robert Half, an American HR firm, found that supervisors spent up to 17% of their time managing bad hires, that's one full day of effort each week.

Employers will immediately benefit from leveraging Aversafe verified data during the hiring process to reduce the number of false claims related to candidates' work history, qualifications and identity. Additionally, Aversafe dramatically speeds up the hiring process by providing employers with the option to request pre-verified information directly from potential candidates—eliminating the lengthy turnaround periods that come with third party background checks altogether.



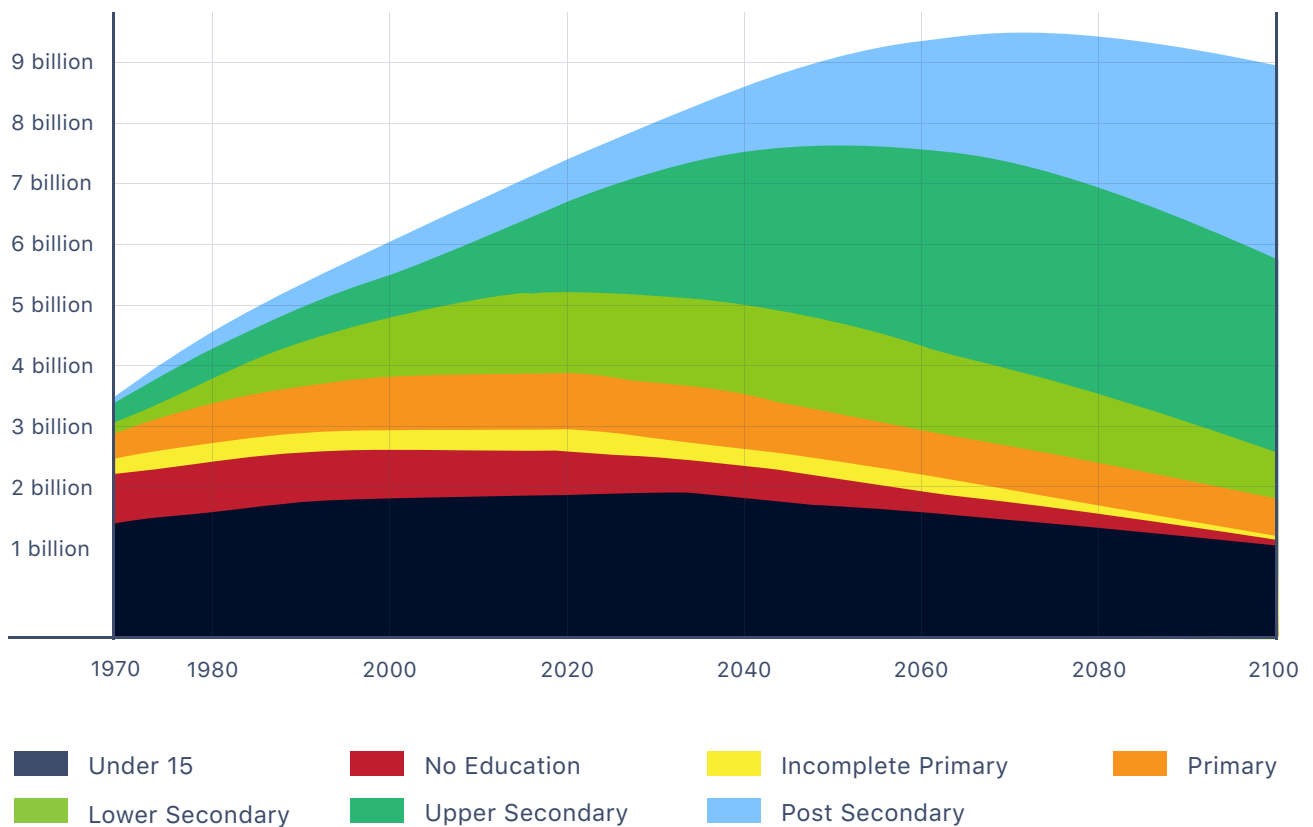
### Increase in Post-Secondary Education

The International Institute for Applied Systems Analysis (IIASA) modelled out projected education levels for the remainder of the century and estimated a 232% growth in post-secondary education by 2050.<sup>(12)</sup> That’s more than 1.687 billion degrees.

The continued growth in post-secondary education globally will further drive the demand for credential verification services. Coupled with increased migration and an increase in students studying abroad, businesses looking to diversify their

workforce will be obliged to verify their candidates’ claims to academic credentials across traditional jurisdictional boundaries. Operating on a supranational blockchain backed network, Aversafe will significantly ease the process of exchanging and verifying certificate data across borders.

### Projected World Population by Level of Education



## Privacy & Security

There are significant privacy concerns at play when handling sensitive personal data. These concerns are best highlighted by lawsuits originating from negligent background check services. Inaccuracies on reports can have a devastating impact on employees while potentially exposing sensitive personal information to the public. Of course, the security and privacy of client data is a major concern for everyone, not just background check companies.

Any company with a significant central database of employment records puts both themselves and their employees at risk. By bundling client or employee data in a central location, companies essentially incentivize hackers. By breaching one provider, a bad actor can gain access to literally billions of users' most sensitive personal information.<sup>(13)</sup> Aversafe avoids the risk of data breaches and abuse by decentralizing the storage of users' sensitive personal information.

Aversafe allows users to store their personal information on their own secure device, ensuring that each user maintains control over their data while avoiding the security risks presented by central storage. This approach also enables Aversafe to

incorporate a global user base without running afoul of jurisdictional politics associated with personal privacy.

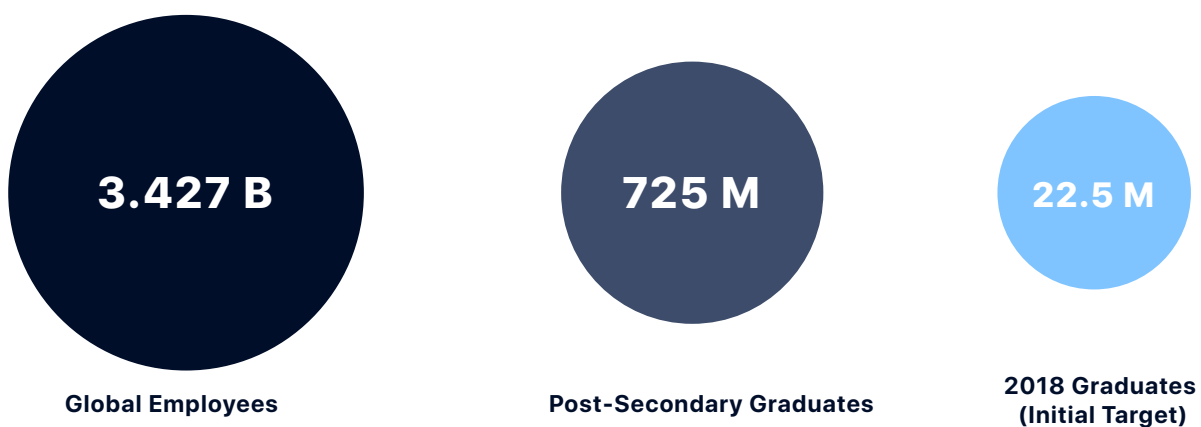
## Common Background Check Services

Employment, identity, education and professional license qualifications have been some of the most popular subjects of background checks for the last ten years. Considering the number of times this data is expected to be reviewed across your lifetime, there are gross inefficiencies in going back to the source each time to verify data which rarely changes.

### Opportunity Summary

**In summary, a significant opportunity exists to address the lack of trust in the hiring process. Aversafe is well positioned at the intersection of employees, employers and credential issuers to improve efficiency and facilitate trust resulting in better hires and decreasing the effectiveness of fake credentials.**

### Addressable Market for Credential Verification



# SOLUTION

Aversafe provides a self-sovereign certification and identity attestation network. Built on top of the blockchain, Aversafe is designed to handle common attestations necessary within the employment ecosystem.

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## Traditional Identity Verification Models

A traditional identity verification process consists of three pieces of data: claims, proofs and attestations:

An identity **claim** is an assertion made by an individual, such as, "my name is John, and my date of birth is 23 June 1985."

A **proof** is a document that provides evidence for an individual's claim. Typical examples include passports, birth certificates or university degrees.

An **attestation** is a third-party verification of an individual's claim based on the third-party's records. Typically attestations carry more weight than proofs, as they cannot be easily forged. However, they shift the burden of verifying, storing and disclosing claim details to third-parties.

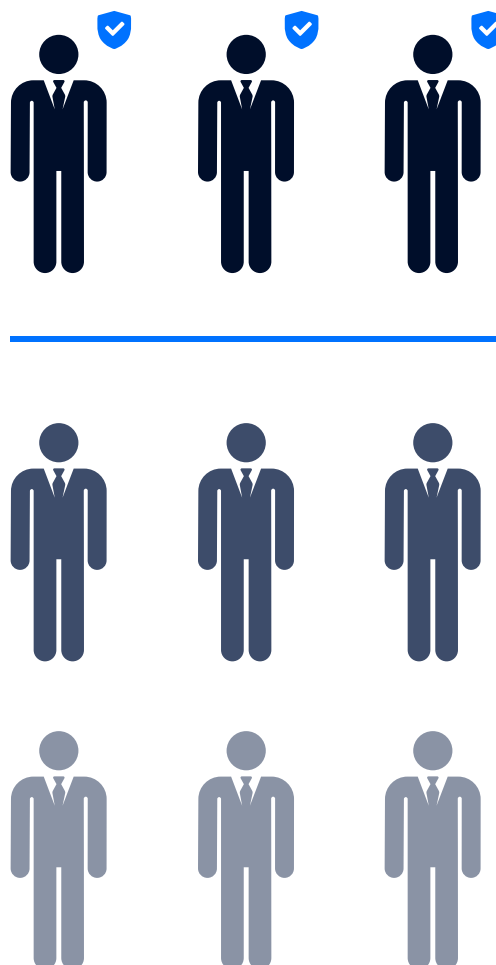
## Aversafe's Identity Verification Model

Within the Aversafe platform, the primary focus is on claims and attestations. Proofs are secondary pieces of information that a user may provide to an identity partner—such as a peer, former employer, or credential issuer—for verification purposes. With Aversafe, proofs are only necessary for initial identity verification.

Claims are made by users directly within the Aversafe application. A user may opt to send a request for attestation of a claims to a third-party identity or certification provider.

Attestations are stored on the blockchain while users' claims and original data are stored on their own secure devices. This prevents the manipulation of data while preserving users' self-sovereign digital identity. Any disclosure of personal information is wholly up to the user, who can selectively determine which information to disclose to any specific requester.

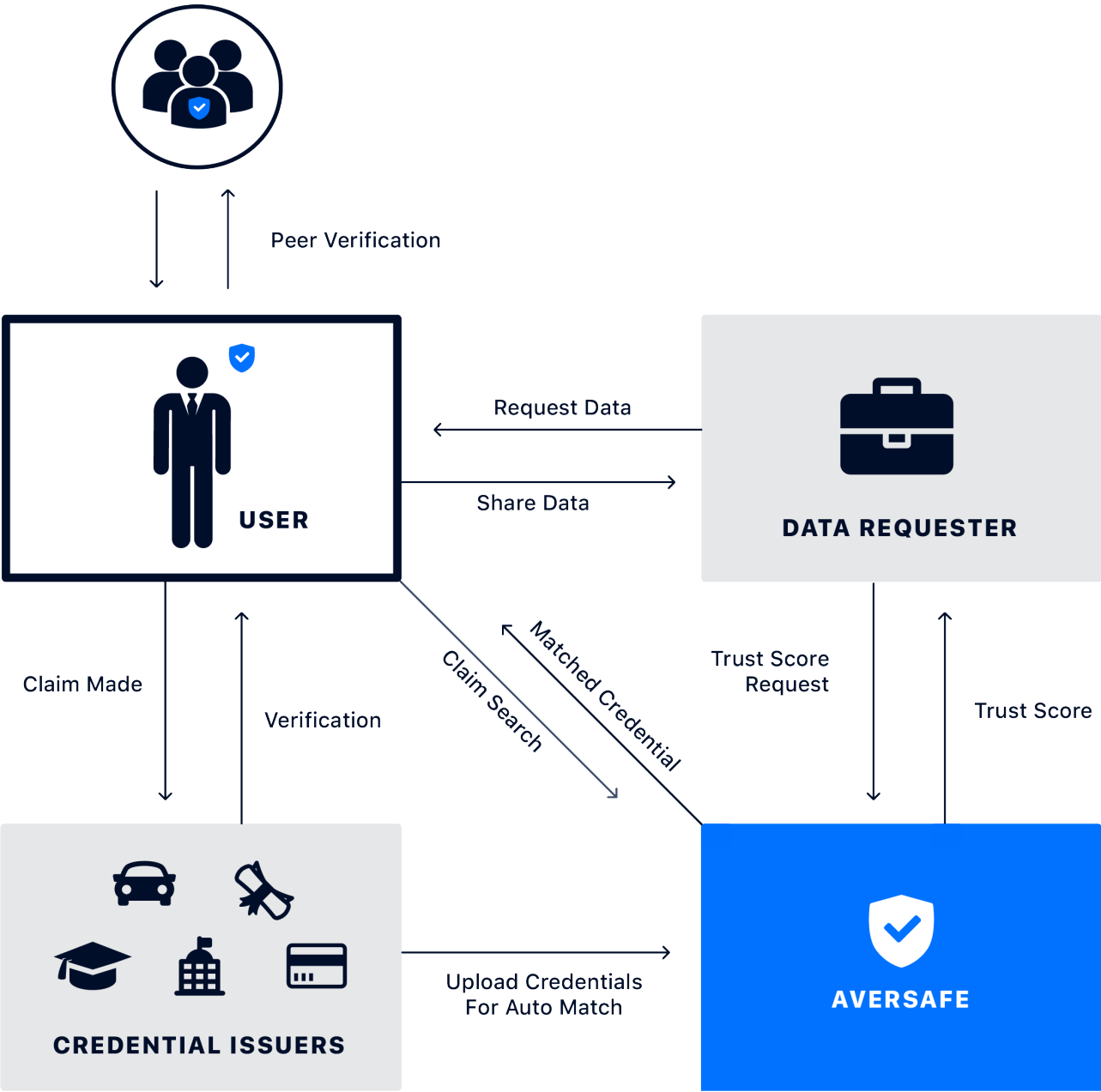
Most importantly, Aversafe focuses on delivering attestation data rather than proofs—which can be forged—to requestors. This provides direct proof of claims while avoiding the risk of forgery, a significant improvement for educational institutions in their ongoing battle with diploma mills.



### Projected User Base

The core Aversafe ecosystem is made up of jobseekers, employers, and credential issuers. Within the platform, each user can provide personal information in the form of a claim. These claims can then be submitted for attestation, whereupon a record of their verification is recorded on the blockchain.

Service providers such as employers can then request information from users, or information may be proactively supplied leveraging our Sign with Aversafe plugins.



## Economics

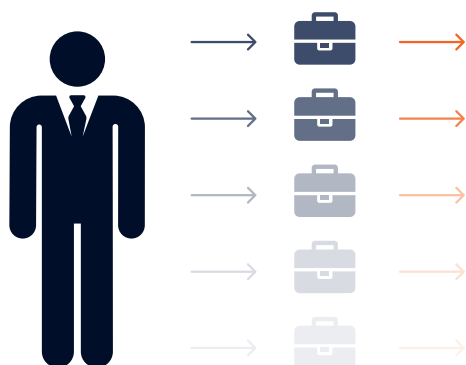
The current credential verification model of using background checks to verify claims made by candidates is heavily weighted in favor of background check providers. Jobseekers, businesses and educational institutions have very little involvement in the process, while verified data must be subjected to costly and redundant reverifications with every new check.

To better even the scales, the Aversafe ecosystem incentivizes the addition, verification and attestation of users' data, while ensuring that information is both tamper-proof and secure. This further encourages job

seeking users to have their information pre-verified to speed up a potential hire. In addition, it encourages both employers and employees to cover costs for verification as it need only happen once for each piece of information added to the network.

To this end, we support both "user pays" and "company pays" models for verifications. Jobseekers can get a leg up on the competition by choosing to request attestation of their claims directly. Alternatively, companies may request attestations of data provided by jobseekers.

### Traditional Applications



### Background Checking Services



As shown in the current economic model above, when companies opt to carry out background checks, a significant number of duplicative checks are performed for data which rarely, if ever, changes.

Given that a typical employee changes jobs 11.7 times over a 30 year period, and that a standard background check scrutinizes around 6 different data points, we can conclude that the average employee is the recipient of no less than 70 checks in a thirty year period. 70 largely redundant background checks amount to no small sum of squandered time and funds. This number doesn't consider checks run by

companies on active employees, which, when coupled with the number of background checks performed on unselected candidates, represent a considerable sum of their own.

Applies with  Aversafe

 Educational Degree(s)  
 Professional Certificates  
 Personal Information  
 Work History



## Background Checking Services



 Credit Score

 Motor Vehicle Records

**In Aversafe's economic model, featured above, duplicative checks are removed while each participant is incentivized to verify collective user data.**

In Aversafe's economic model, featured above, there is a significant incentive for all participants to be involved in the verification of data. Companies reduce costs and time, employees are more likely to get interviews with verified information, and educational institutions and certificate issuers reduce the number of verifications that are requested of them—all while marginalizing diploma fraud. Meanwhile, Aversafe

takes a 20% fee on all transactions across the network, which covers operational costs and enables reinvestment in the platform's core functionality. In short, the Aversafe model is a win-win for every participant in the network.



# COMPETITIVE LANDSCAPE

Continued pressure on HR departments to move quicker, hire faster and find better candidates continues to expose an opportunity that our competitors are not addressing.

By leveraging cutting edge blockchain technology to provide a secure approach to identity and credential verification, Aversafe is cornering a significant opportunity to improve the hiring process for all participants.

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## Verification Agencies

The legacy verification industry has attempted to modernize its offerings, but has ultimately failed to deliver any meaningful global solution to consumers. The industry continues to deliver a sub-par service to jobseekers, employers and certificate issuers.

## HR Software Providers

The HR software industry has grown at an incredible pace over the last 5 years, but providers have no real incentive to solve the problems experienced by certificate issuers and educational institutions. Their continued investment in machine learning and natural language processing has cut the costs of applicant tracking, however, their algorithms continue to base decisions on unverified user-supplied data—presenting employers with an unacceptable degree of risk.

## Universities

Universities are acutely aware of the threat posed by diploma mills and credential fraud in the hiring process and continue to invest in improving their certificate validation processes, however, these investments rarely extend beyond the level of a single university and have no sustained impact on the underlying problem. Furthermore, without a trusted

attestation network, these universities must continue to re-verify credentials for each new employer looking for certainty in the hiring process. A notable exception, the signatories to the Groningen Declaration understand this issue and are focused on developing best practices and standards for the secure, citizen centered consultation of educational data.<sup>(14)</sup> Aversafe intends to provide precisely that.

## Competitive Environment

Although there are several startups attempting to solve identity verification on the blockchain, they're universally focused on overbroad markets without any special regard for the employment and certification ecosystems. While these solutions could undoubtedly contend they are capable of servicing this market, their overbroad platforms lack the focus and direction necessary to viably compete in this space.

## Competitive Advantage

Aversafe is 100% focused on solving the issue of trust in the employment and certification space. Our team's collective background in building large scale software deployments—including identity and security management, ecommerce and most importantly HR focused tools— provides the necessary experience and subject specific knowledge to deliver not only a compelling, but imminently scalable solution for jobseekers, employers, and certificate issuers.

# PRODUCT

The Aversafe mobile app will allow users to create an account, enter profile data and request or produce verifications.

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# PRODUCT

Aversafe is developed on top of the blockchain to provide secure, decentralized credential verification services. The Aversafe platform provides verification for employment and certification related information including but not limited to university and higher education certificates, employment history, professional certifications and references.

Jobseekers, employees and other casual users will primarily interact with Aversafe through the use of iOS and Android applications on their smartphone. The Aversafe mobile app will allow users to create an account, enter profile data and request or produce verifications. Furthermore, all requests for access to users' profile data will be informed via push notification, requiring the consent of the user prior to the information being shared.

Meanwhile, employers, educational institutions and other certificate issuers will primarily interface with the Aversafe network through a web application to manage their certificates, process information requests and produce verifications.

To protect the security of attestations, a 2-factor authentication mechanism will be required for trusted attestations, leveraging the iOS or Android application in order to sign the attestation. Additionally, an SDK for integration into third-party HR and ATS products will be made available, to power the "Sign with Aversafe" functionality.

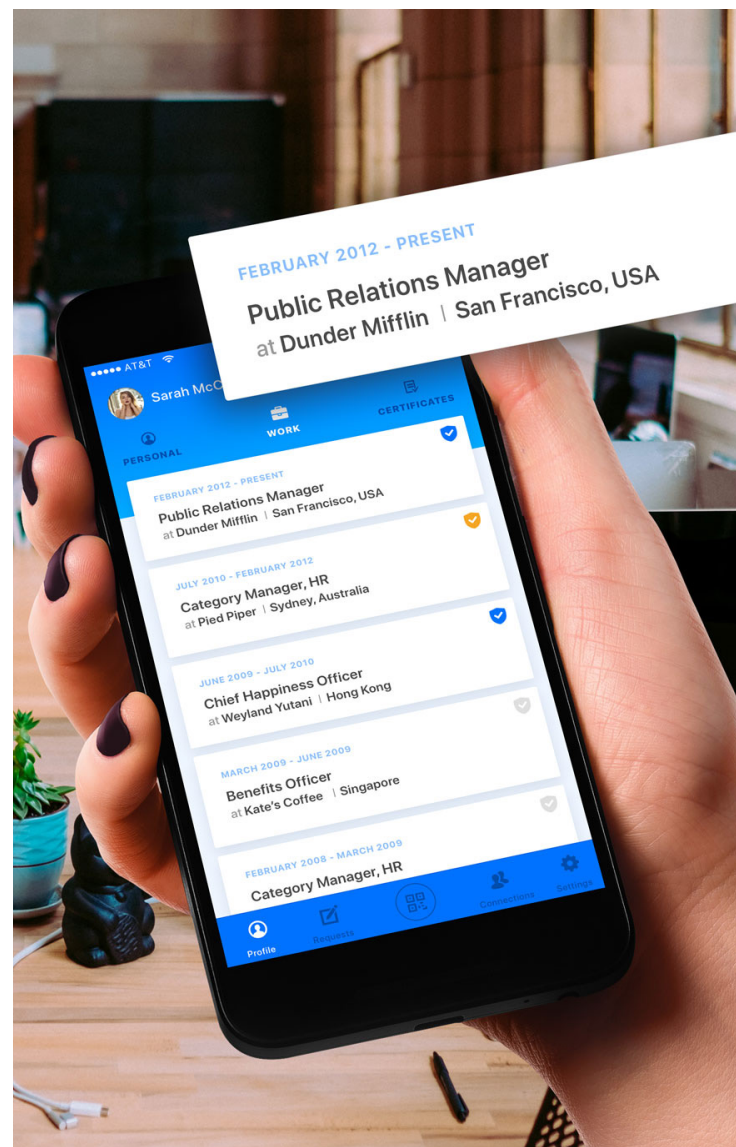
## Blockchain

The blockchain provides a degree of transparency, security and immutability that makes it the most appropriate technology for delivering global verification services across jurisdictional boundaries. On top of the blockchain's core properties, the technology provides an opportunity for exceptionally time efficient and low-cost distributed attestations.

Furthermore, the delivery of auto-actioning smart contracts enables programmatic guarantees on how

the network will perform. Smart contracts also streamline functionalities like account recovery and device transfers, which otherwise would be large technical barriers to mass adoption.

Aversafe strives to abstract away the procedural and cryptographic complexity of the blockchain for casual users, ensuring a streamlined and globally accessible user experience.



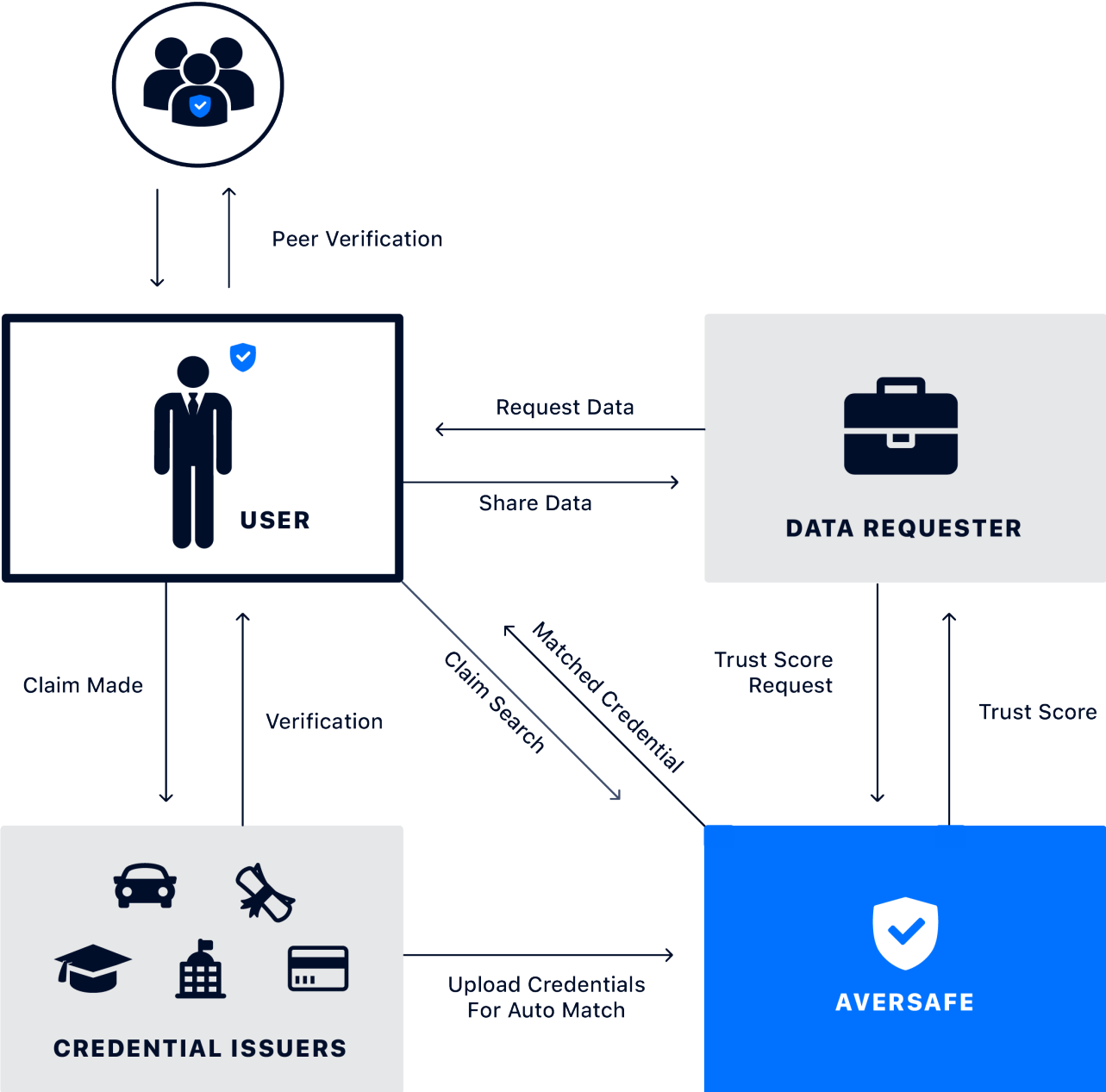
### Ecosystem

The Aversafe credential verification ecosystem includes jobseekers, employers, certificate issuers (such as universities or professional organizations), and third-party identity partners.

Jobseekers here refers to users who make claims with regards to their certifications, work history and identity. Employers are companies or firms engaged in employing users, who function as the primary identity requesters at the foundation of the network.

Certificate issuers include universities, license distributors and professional organizations who provide the strongest level attestations in the Aversafe system.

Finally, third party identity partners provide attestation, but do so within their professional capacity as a third-party verifier. The primary use for third-party verifiers is identity verification of date of birth, name and related personal fields.



## Ecosystem Token (AVS)

The ecosystem token, AVS, will be introduced as the payment mechanism for verification services provided within the platform. The utility value of AVS tokens encourages user participation—creating value for everyone on the network by ensuring that users' claims are being verified and shared.

Every participant in the Aversafe network needs to hold a certain amount of AVS to gain entry to the platform. These tokens are put in escrow with a smart-contract and managed to incentivize user participation. Users will more than make back the sum of their escrowed funds in the additional value their participation brings to the network.

Once users are onboard and fully equipped with their AVS, there are a range of actions they can perform that involve sending or receiving tokens. The first is requesting verification of a claim. Say User A wants a university to verify their degree, or perhaps User A wants a former boss or coworker to confirm that they worked together at given company—in either case User A sends can send the relevant party a certain quantity of AVS to request verification of their claim. In certain cases, users can pay Aversafe directly to match or verify claims that are already on the platform's database. Regardless of the recipient, requests for verification of users' claims—as well as the corresponding verification of those claims—are recorded on the blockchain.

AVS can also be used to request data. Say User A is a recruiter looking into a potential hire or an HR officer at an international company, and User A wants to verify some piece of information on User B's CV—User A can request that data by sending User B a certain number of tokens. After User A receives the information, the tokens that User A paid are divided up between User B as well as all the users that have previously verified User B's information. The amount of AVS that users receive for previously verifying some article of information depends their Trust Score—a number calculated by Aversafe based on how much

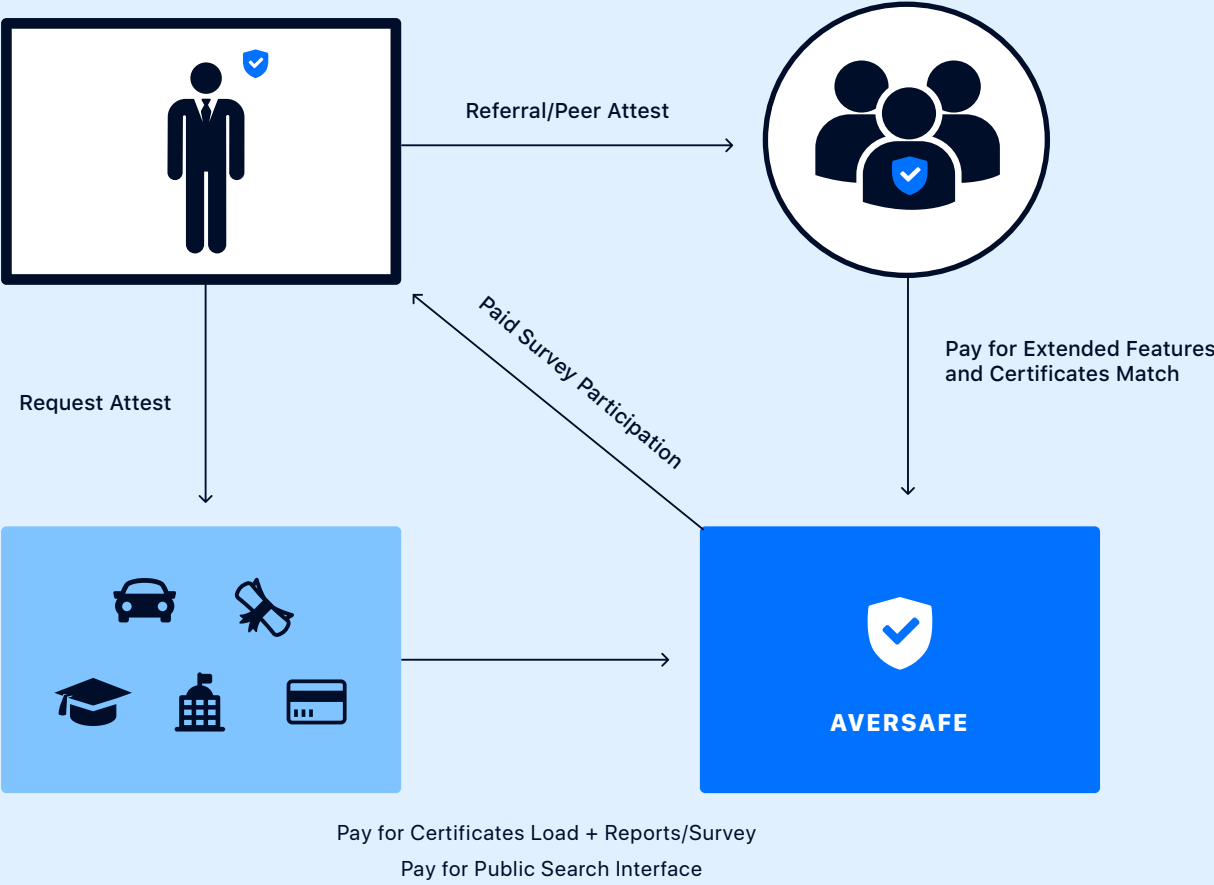
information a user provides about themselves as well as how much of that information has been verified by other users. This reward model is designed to encourage users to verify one another's claims, creating long-term revenue streams for users while strengthening the network by adding verified information to the blockchain.

Finally, let's say User A represents a major university or some other credential issuer on the Aversafe network. User A can send AVS directly to Aversafe to have the network store verified information about large groups of certificate holders—for example, the student ID numbers of the entire graduating class of a certain year.

This lets graduates coming to the network communicate directly with Aversafe to match and verify their claims without choking-up the university's channels. Additionally, certificate and credential issuers can provide AVS directly to Aversafe in exchange for select reporting, survey, and public search features gleaned from the information on the blockchain.

As discussed, the economics of the Aversafe product encourage participation and holding of AVS in order to strengthen users' credentials, reduce requests for verifications from third parties, and to decrease fraud.

# Ecosystem Token (AVS)



## Attestations

There are 3 different tiers of attestation supported by the Aversafe network:

- **Primary**
- **Secondary**
- **Peer**

**Primary** attestations are issued by the original issuer of the credential in question. An example of this may be a university attesting to a degree it issued. Primary attesters are the backbone of the system, and provide trusted verification of claims.

**Secondary** attestations are issued by third parties in a position to verify a claim, but who are not the original issuer or primary verification source for that claim.

**Peer** attestations can also be made between users, allowing users provide employment references, or verify that a given peer worked at a certain company for a certain period of time.

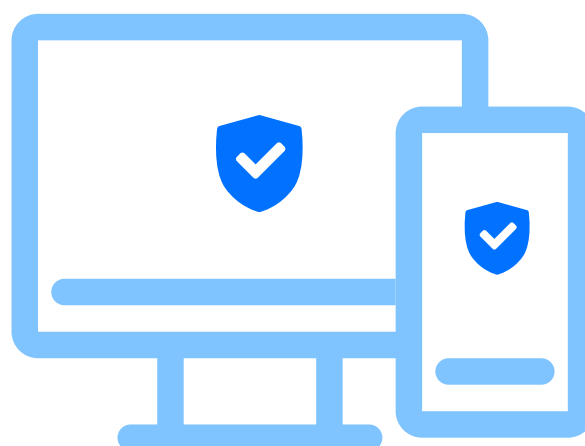
Each of these verification tiers provides a different Trust Score, a value generated based on internal metrics to reflect the level of trust provided by an organization or user's attestation. These values are used to demonstrate degrees of trustworthiness while highlighting areas of concern.

Upon joining the Aversafe network, individual users will initially be unverified. Users can provide personal information to improve their initial trust score, as well request third party verification of their name, date of birth, SSN, and similar details in order to strengthen their profile. Companies will also be initially unverified, and can pay a small fee for verification against DnB or other third parties, in order to strengthen their trust score and subsequently the scores of those they make attestations about. Universities and Higher Education providers will be whitelisted based on accepted credentials from the International Association of Universities.

## Interfaces

Most users will interface with the Aversafe network via mobile applications, while employers, educational institutions and other certificate issuers will also have access to the network via a web portal for identifying, requesting and verifying parties.

The Aversafe mobile app interface will allow users to manage their personal information, certifications, and work histories while also providing an avenue for requesting third-party attestation of their data. In the future, users will also be able to directly map their account to their university assigned identifies, to have all appropriate certifications awarded and automatically recognized as verified in their profile.



[Mobile Application](#)

[Issuer Portal](#)

[Claim Upload Tool](#)

[Aversafe API](#)

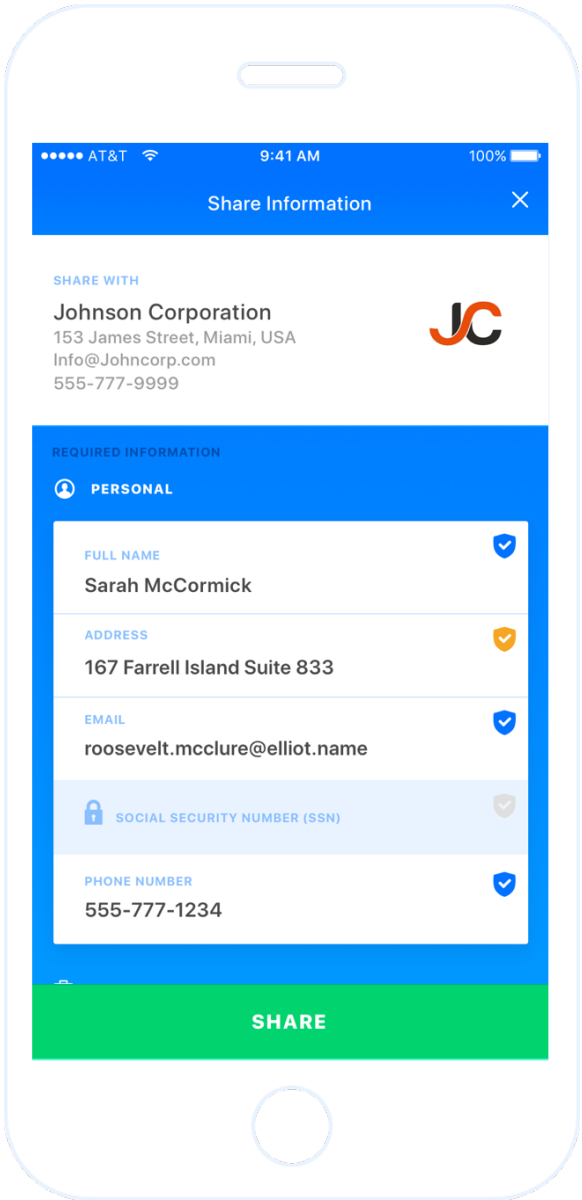
[Sign with Aversafe Widget](#)



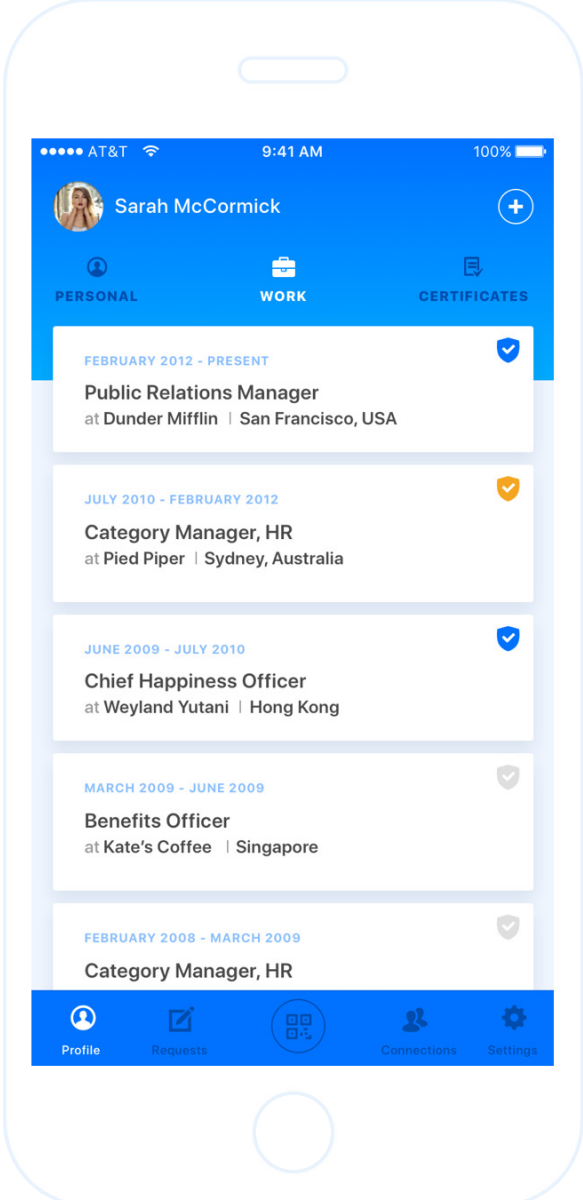
### Interfaces: Mobile Application

The Aversafe mobile application is a user-centric smartphone app for iOS and Android that provides self-sovereign identity creation directly on the device. Users build their profile of claims and can directly

request attestations from their mobile device. Additionally, data sharing is completed from the mobile application, either by scanning a QR code on a website, or through push message notifications.



Sharing user data with employers on the Aversafe mobile app.



Users' profiles demonstrate work histories with varying degrees of trust.

## Interfaces: Issuer Portal

The issuer portal is a web application for the issuance of verifiable claims and attestations, including approval of verification requests. Access to this tool is granted to educational institutions and professional organizations to manage certificate issuance and matching.

attestations. The web portal also provides access to reports and audit trails on attestation activities. Authentication into this platform is provided via the Aversafe mobile application.

The issuer portal is the primary interface through which organizational users approve and issue

The screenshot displays the Aversafe Issuer Portal interface. At the top, there is a navigation bar with the Aversafe logo, the text 'AVERSAFE', and menu items for 'CERTIFICATES', 'REQUESTS' (with a '20' notification badge), and 'REPORTS'. A user profile for 'R. Bradley' and a settings gear icon are also visible. Below the navigation bar, there is a 'REQUESTS' section with a search bar, a year filter set to '2017', a department filter set to 'All Departments', and a '+ ADD CERTIFICATE' button. The main content area features a table with the following columns: '#', 'NAME', 'INSTITUTION ID', 'CERT ID', 'CERT NAME', 'ISSUED DATE', and 'WHO?'. The table contains 13 rows of data, with the last row partially obscured.

#	NAME	INSTITUTION ID	CERT ID	CERT NAME	ISSUED DATE	WHO?
1234	Tom Floyd	926335124	9847173	Bachelor of Art	03/28/2017	Francis Daniels
1235	Lucinda Summers	122489124	5672562	E-Commerce Certificate	01/25/2017	Joseph Ray
1236	Steve Adkins	22559922	8925783	Liberal Arts and Sciences	11/22/2017	Duane Little
1237	Mabelle Knight	132598921	1736949	Social Sciences	04/21/2017	Myra Todd
1238	Effie Hogan	45012345	1069362	Humanities/Humanistic Studies	05/11/2017	Trevor Blake
1239	Jared Barnett	23900234	1226732	Master Business Admin	10/08/2017	Marc Malone
1240	Daisy Guzman	38572529	1236789	Aeronautical & Manufacturing	03/28/2017	Steve Taylor
1241	Mabelle Knight	85916483	1235784	American Studies	03/28/2017	Chris Scott
1242	Antonio Copeland	38572649	1235784	Anthropology	01/30/2017	Elizabeth Hogan
1243	Helen Brooks	23860912	1235784	Business & Management Studies	04/18/2017	Leroy Elliott
1244	Stanley Barton	38679484	1235784	Complementary Medicine	11/16/2017	Jim Daniels
1245	Gertrude Carpenter	47692308	1235784	Computer Science	03/28/2017	Jose Stephens
1246	Lucille Miller	58204758	1235784	Electrical & Electronic Engineering	03/10/2017	Edea Daniels

The Aversafe issuer portal allows certificate issuers to monitor and attest to users' claims.

## Interfaces: Claim Upload Tool

The claim upload tool is a Mac and Windows desktop application for stripping PII from certificate matching files, allowing educational institutions to supply claims for automatic matching, while ensuring that Aversafe never directly accesses users' sensitive personal information without direct user consent.

The Aversafe claim upload tool lets certificate issuers prepare csv files with flexibility to define fields that users will need to complete to match against a

certificate—for example a date of birth and/or university enrollment number.

These fields are then hashed using a salt unique to that institution, rendering the data unreadable. Data is transferred to the Aversafe API and is visible via the Aversafe portal.



### Interfaces: Sign with Aversafe Widget

The Aversafe platform provides a javascript embeddable signing widget for third parties to implement on their websites and/or applicant tracking systems. Clicking on the "Attach Aversafe profile" button generates a one-time QR code containing signing information and both required and optional fields for the requesting party.

Upon scanning the QR code with their Aversafe application, a user will see a summary of the requesting party as well as the information requested and suggested fields to be sent. The user can then opt in or out of sharing specific fields and can approve the request.

In real time this data sharing contract is established and recorded on the blockchain while the Aversafe widget is updated to reflect the successful sharing of data.

### Interfaces: Aversafe API

The Aversafe API will be available for select partners for automated supply of certificate credentials for automated matching, as well as backend integrations into HR platforms for display of verified information.

## Prepare for Launch!

**UI-UX Designer (Web and Mobile) at Johnson Coporation**

Your name:

Your CV:  original.pdf

We accept .doc .docx .pdf and .txt files up to 1MB

What skills, work projects or achievements make you a strong candidate for this position?

**(Recommended)**

I help clients designing digital products and services. My approach involves thinking, challenging and problem solving which I then will translate into a meaningful aesthetic graphic solution.

216 of 500 characters remaining

Attach Aversafe Profile

Scan the QR code with Aversafe Mobile App

[What is Aversafe?](#)
[Get the App](#)
[Support](#)
Close

Send my CV

## Trust Score

Aversafe assigns a Trust Score to each user which is available to identity requesters. The Trust Score reflects the amount of information a user has provided, how it was verified, and to what degree that information is considered immutable.

Trust Scores play an integral part in the decision process for new hires, they highlight professional certifications which may soon expire, claims which may not be validated, and certifications assigned through automatic matching without a full attestation. This allows users to disclose all or partial claim information with or without attestations to requesting parties, while still ensuring that the requesting party understands the trustworthiness—or lack thereof—of the data they've received.

## Certification Matching

According to the IIASA, the number of post-secondary educational attainments grew from 615 million in 2010 to 725 million in 2015.<sup>(15)</sup> At a rate of approximately 22.5 million new graduates a year, this is a significant amount of attestation work to be undertaken by higher education institutions.

In order to ease the path of adoption and lower the barriers of entry, Aversafe will deliver a data matching solution within the web portal to provide educational institutions and other certificate issuers the ability to provide credentials to Aversafe directly. This allows users to interface with Aversafe to match with their certificates based on pre-verified third-party data. For instance, if a user has their date of birth field attested by identity verification, coupled with their university enrollment number, we can immediately match and associate all achievements.

These data matched associations will carry less trust than a fully attested certification on a user's identity, however, certificate matching opens the door to quick adoption while reducing the burden on certificate issuers. Users or employers may still opt to request full attestation from the certificate issuer at any point

in the future, at which time the trust score for this property will be adjusted accordingly.

In order to protect the privacy of users, Aversafe supplies a per-institution private key for the hashing of PII details used in certification matching, removing the risk of a PII breach of Aversafe, while still allowing automatic association of records to users.

## Recovery and Transfer

Given that all PII is stored directly on Aversafe users' personal devices, if a user loses or upgrades their device, they may lose access to their existing identity information. To address this issue Aversafe leverages smart contracts to provide account recovery and transfer options.

# MARKETING & PARTNERSHIPS

Initial outreach is focused on fostering partnerships with educational institutions and professional organizations to secure verified certificate issuers.

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We expect these initial partnerships will have a significant impact on onboarding fresh graduates as well as institutional alumni. Additionally, early partnerships with Applicant Tracking Systems and Job Boards will introduce the "Sign with Aversafe" concept to the mass market, encouraging signups from professionals and jobseekers seeking to verify their personal information and gain a leg up in the hiring process. An Aversafe pilot program designed to demonstrate proof of concept to job boards and certificate issuing partners is currently in development.

Partnerships will be outreach driven from within the Aversafe team, while during 2018 we will introduce an SDK and integration documents for partners who would like to support "Sign with Aversafe" functionality directly within their product. Direct marketing to users will be conducted through promoting partnerships and visibility of the "Sign with Aversafe" functionality on partner websites of note.

**To expand the network's user base, Aversafe may opt to encourage referrals of new users through granting additional AVS to referring users. These referral-rewards will be issued from the pool of tokens reserved for partnership activities.**



# DEVELOPMENT ROADMAP

Our roadmap for development, marketing and partnerships is both ambitious and achievable. We anticipate the largest variability in our delivery will stem from early partnerships and the potential network effects these will have on ecosystem growth.

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# ROADMAP

*\* The development roadmap is subject to change in accordance with the outcome of the Aversafe ICO Pre-sale \**

**Our roadmap for development, marketing and partnerships is both ambitious and achievable.**

**We anticipate the largest variability in our delivery will stem from early partnerships and the potential network effects these will have on ecosystem growth.**

## ● Q4 2017

- . ICO Pre-sale
- . Signup 10 issuers as partners for pilot program

## ● Q1 2018

- . ICO Crowdfund
- . Launch POC of web application for employers and certification institutions
- . Begin development of mobile application and certificate desktop tool
- . Signup 2 professional certificate issuers
- . Integrate identity verification platform

## ● Q2 2018

- . Launch iOS application
- . Launch Android application

## ● Q3 2018

- . Launch SDK for embeddable signing on job applications
- . Launch of API for platform integrations

## ● Q4 2018

- . Signup 50 universities
- . Integrate with other HR platforms + plus launch API for verifications
- . Launch employment history attestations

## ● Q2 2019

- . Launch of individual products to cater to employees (subject to reaching funding goals)
- . Launch of information service to universities to understand the success of their graduates (anonymised) (subject to reaching funding goals)

# FINANCIAL TARGETS & EXPENSES

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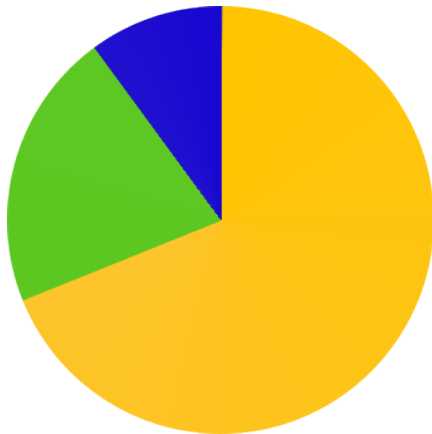
# FINANCIAL

*\* The development roadmap is subject to change in accordance with the outcome of the Aversafe ICO Pre-sale \**

Target on crowdsale: **\$8 million**

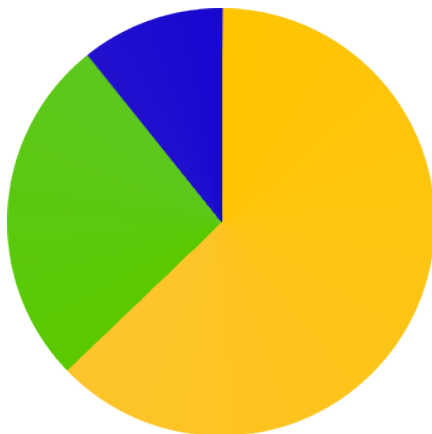
Soft cap at **\$2,400,000**

Hard cap at **\$8,000,000.**



## Projected Use of Proceeds 2018

- Development expenses **70%**
- Partnerships and Business Development **21%**
- Administrative/Legal/Overhead **9%**



## Projected Use of Proceeds 2019 - 2020

- Development expenses **60%**
- Partnerships and Business Development **31%**
- Administrative/Legal/Overhead **9%**

# TEAM

The Aversafe team started working together in March 2017 on solutions for the HR industry.

Comprised of team members who had managed hiring processes first hand, interviewed and led teams and were tired of the overhead, they set out to solve some of the industries hardest problem.

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# TEAM



## Andrew Duck

### CEO & CTO

Andrew has been in software engineering and executive leadership roles for more than 15 years. Having founded and exited several companies, Andrew was most recently Founder and MD of Audience Media until its acquisition by Zinio in 2014, and then Global CTO of Zinio for a further 3 years. Having developed platforms for Government, Hospitality, Media and HR, his focus is on solving large scale business problems with the innovative application of technology. Having delivered solutions to the world's largest media, hospitality and government companies/agencies, Andrew is excited about the application of Blockchain technologies to the educational credentialing market.

Outside of Aversafe you will find Andrew frequently speaking at conferences and advising startups on business and technology strategy.



## Tu Pham

### Chief Operating Officer

Tu is a passionate HR professional with over 8 years of experience in recruitment, training, talent management, C&B systems, KPI management, and employee relations. A committed organizational guru, Tu has a knack for big picture business strategizing, planning and budgeting. She brings a trained eye for top quality candidate material to the Aversafe team.



## Kevin An

### Creative Director

Kevin has spent the last 10 years designing consumer driven applications, web interfaces and content for some of the worlds largest companies, including National Geographic, Elle, Cosmopolitan, Oprah Magazine, Rolling Stone Magazine, Zinio, Audience Media, Vietnamworks among others. With an eye for detail and a strong focus on user experience, Kevin builds intuitive products with global appeal.



## Trang Nguyen & Josh London

### Marketing & Communications Directors

Trang and Josh work to communicate Aversafe's brand and vision to the public while overseeing internal communications. Their duties include managing Aversafe's blog and proactive social media presence as well as curating events and media relations. Collectively they liaise with international job boards, high-density employers, and accredited educational institutions that stand to benefit from the Aversafe product.



## Harlequin Doyon

### Backend Engineering Lead

Harley hails from Cebu, Philippines, a backend engineer by trade his focus is on secure and scalable APIs that protect PII while encouraging innovative applications. His most recent work was on payment systems, and is now focused on solving problems in the HR and employment sphere.



## Paulo Trajano

### Frontend Engineering Lead

Paulo has worked on a range of projects designing award winning websites and interacting on a daily basis with graphic designers, back-end developers and marketers. He's acted as a consultant for new trainees and has a natural talent for front-end development.