TFTC 398

**Marty:** [00:00:00] I Amjad, thank you for joining

**Amjad:** us. Pleasure. Great to be here.

**Marty:** Well, I'm extremely excited. This is, uh, I'm not gonna lie, this is the most nervous I've been for an interview in quite some time because I think what you've built at Relet is extremely profound. Uh, and the story behind it is inspiring. Uh, I think Rep is a great example.

Of a founder who was scratching their own itch and actually built something incredible that now millions of people are beginning to leverage and get value from in their everyday lives. I think for the purposes of this conversation, I'd like to start there. What was it like scratching your own itch and that itch turning into this behemoth that is replica?

**Amjad:** It was kind of surreal because as as you know, like when. Tinkering and you're trying to solve a problem for you. You're not really thinking about how this could [00:01:00] be a big business or how could this change your life? Um, a as I started doing it, and I started, um, so the problem I was solving at the time was that, I was trying to learn a lot of programming languages.

I was going to school for computer science, but on my own, I was trying to learn Lisp. I was starting to read P Graham. Uh, I was really getting into becoming a programming language nerd. Um, and every time I want to like, play around with a programming language, it would, I would like spend. An hour or two, if not more, just like finding the proper compiler interpreter tools for it.

Um, at the time I didn't have a laptop and so I'd do it at work or at the library or, and sometimes the computer's locked down and doesn't have sudo or something like that. Um, and at the time, I think it was like 2008, nine, Google Docs had just come out. Google Chrome [00:02:00] was becoming really powerful.

JavaScript was getting really faster and I thought, you know, I'm like doing a lot of my work in the browser. Why can't I like code in the browser? Surely that exists And then I go look for it and it doesn't exist, which was surprising. Um, so naively I decided to build it. . Um, and then I pretty quickly found out why it doesn't exist.

It's like extremely hard to run anything other than JavaScript in the browser. Um, and so I thought, okay, if I run a like different language than the browser, I have like a couple of ways of doing it. How technical can we, can we go on this podcast? We can get

**Marty:** very technical. There's a lot of, uh, Bitcoin developers, uh, listening to this.

**Amjad:** Okay. Yeah. I think Bitcoiners would love this. So we essentially. , uh, wanted to run more languages than the browser. And so you, you have two ways of doing it. One is like you re-implement a compiler or interpreter, uh, in JavaScript, [00:03:00] right? Uh, and the other is like, you try to somehow compile that interpreter, that existing interpreter into JavaScript.

The first solution is very laborious. So I started doing that. First, I started writing a Python interpreter in JavaScript. I got pretty far, like I wrote a parser. I wrote it. And then I remember it was around the same time they were working on Python two, I think, or three, and all the syntax and the parcel that I wrote became immediately outdated.

I'm like, oh, shit. Like, so not only do I have to write this language, I have to keep upstream, keep with the upstream thing. And I was like, oh my God, I, I wish I could just like compile C Python in de JavaScript. Uh, at the time I saw in Hacker News or something, there was this guy at Mozilla that's doing research into how to run different program languages on top of the browser, and he built this thing called AMS script.

And Ryon was based on this very simple observation [00:04:00] that if you look at the L L V M, ir, so L L V M is lower language virtual machine, and this is basically a invention from Apple that allows you to build, uh, it's like a compiler tool chain. . Um, and the L vm IR is a inter intermediate representation that allows you to cross compile different programs on different, uh, architectures.

And, uh, the IR is basically this like low level C like language that kind of looks like any C like language language. So if you squint, it kind of looks like JavaScript a little bit. So this brilliant guy from Mozilla. Decided to take the IR and just run it and just transpire it into JavaScript, change a few things about it.

Uh, for example, the, the, the, the heap, uh, he just made it an array and it was like a bunch of fun hacks, trick area like that. And suddenly you can compile sea to VM ir [00:05:00] and then transpired the JavaScript and then run into in the browser. And it was kind of a crazy idea, but it sort of started working. And then you have, anytime you create a virtualization or you wanna, uh, you wanna run some environment that's not meant to be run in that environment.

Um, you have to do a lot of what we call poly filling, or you have to kind of, uh, uh, like, um, Uh, create a fake environment, create a sandbox. Um, so in this case you have to emulate the POS environment in order to run, um, any kind of, uh, sea program, um, and lipsy and other things like that. So when we first, uh, when I found the project first and, and decided to try it to compile c Python, it didn't work.

And the reason is because a lot of APIs were. So my friend and I who were working on this project together started contributing to to Ryon and um, we [00:06:00] were kind of like the first to use it for anything real. And so we finally got Python running. and it was kind of an insane idea and we put it out there as an open source thing.

Um, and it just went super viral because for the first time you could run Python on Leonard, Ruby and Lua and a few other languages in, in JavaScript. Um, and you know, here we are like, you know, couple kids from Ahman Jordan and our project is on top of Hacker News. The inventor of JavaScript is tweeting about it, and that was, that wasn't even the final product that we wanted to build.

It was just one milestone on the mission that I'm still on today, which is how do you build a sort of fully browser based programming environment? and, but that, that single thing changed my life because, um, A bunch of companies in the US started using the opensource project, and I came to the US on an oh one Visa to work at [00:07:00] Code Academy.

I came as a founding engineer. So I came to, from Amman, Jordan to New York in 2012, uh, to work at Code Academy where we used this technology and scaled it to, um, to millions of people. I think it's one of the top, uh, , although replica is, is sort of becoming bigger than it now, , but it was like the top place to get started with programming.

It sold for half a billion dollars, uh, last year. So that was a big success for, for the team. Um, I left shortly. I went to work at, uh, Facebook, um, also worked on developer tools, worked on React and React Native, and then 2016 decided to start a company. I had a little bit of cash. I, you know, could boost wrap, uh, the company.

and that's when I started Relet as a company. But it's, you know, it literally started as a side project, like, you know, eight years before of that, before we started as a company.

**Marty:** Yeah. Now it's an incredible story and thank you for your work at Code Academy. I actually used [00:08:00] it to learn Python acting like 20 13, 20 14.

Uh, but no, I mean, I think, again, going back to. Rep and what you've built. I think it's pretty amazing because not only is it this entry point for people wanting to learn how to code, but like I was saying, there's many Bitcoiners here in Austin at the Bitcoin commons that I see using Relet every day as like a fast iteration tool when they want to.

They have an idea and they wanna build something quickly and test it out, they're finding that rep is the quickest way to do that. So not only is it this platform, uh, top of funnel to get people in learning how to code, but even experienced developers are finding it useful as well, which is pretty

**Amjad:** amazing.

Yeah, and we, we've been expanding power more and more and, you know, we've added ways to really run anything. And reason we we're able, we have lightning, uh, templates now, and you can like one click start like a Lightning app. Um, and that's because we, we, we run on Nix, which is a, uh, Uh, sort [00:09:00] of operating system technology that a lot of Bitcoiners like.

Um, so there's a lot of affinities between rep and the Bitcoin community cuz we like, like reproducible things. Uh, we like, uh, you know, um, you know, secure things. We, um, we don't like to introduce lock in where it's not necessary. You can download your project any, any time from and running on your own server.

and, um, and, and so yeah, it's, it's becoming more and more powerful over the years and we're seeing people like graduate less from it, and we're seeing experienced programmers flock to it as

**Marty:** well. Yeah. Yeah. Next, Bitcoin is a hot project. Developers love that. It's, uh mm-hmm. very easy to work with or not easy to work with, actually a bit more technically involved, but, um, something that the developers love to build on here.

But, so what is. , like the long term vision for rep. Like where, where is your [00:10:00] focus now? Cuz obviously you guys launched the mobile app recently, you had the bounties program now, uh, it's a place where people can come learn to code, but what, like, what is the ultimate goal? Where do you want to take this?

Where do you see this going?

**Amjad:** I, I always wanted it to be, , and this is also like where, where sort of the affinity with Bitcoin also comes in. I also wanted it to be a tool for, uh, economic empowerment. Um, I think the way my life changed and my circumstances changed, um, because I was able to learn how to code and be able to contribute to technology on a world scale is pretty fascinating and most people.

in Jordan, uh, or previously in history would not have gotten that experience. So just from my personal story, um, I started to realize that, that the thing that we're working on is [00:11:00] actually a lot bigger than just a technical product, than just a tool. Um, and like when, when someone learns to. , they're trying to do something right?

Um, yes, you can do it for fun and for education, but most of the time you're trying to, uh, improve something about yourself, about the world. Uh, you're trying to build a business, you're trying to earn a dollar. Um, and so we always wanted to, okay, we're, we're gonna solve the entry to programming experience.

We're gonna solve the tools experience. We're gonna create this rapid development platform. Um, but then we. to make it so that you can be, you can earn on the platform. And we always thought of money, uh, or, or, or currency or monetization as something that should in, should be inseparable from the act of creating software, which I think what also Bitcoin, uh, kind of, uh, proved.

And, and it's like the thing is like the internet had a [00:12:00] missing feature and that missing feature is. Is money, right? The internet is incomplete without money. Right now, the way people build software is you sort of create a piece of software, um, and then you put it out there and you get a bunch of users.

and then, oh God, you have this bill from a cloud provider and it is thousands of dollars, and okay, I need to monetize this, that somehow this is a useful for P for people. Then you have two choices. You either placard it with ads or go raise a bunch of money from VCs, right? And then you raise a bunch of money for VCs.

You delay your eventual. Sort of judgment day to actually like figure out what the actual core business is. And sometimes, a lot of times it works out, uh, if you have a business plan that requires you to grow. And I'm, I'm not a anti venture capitalist. I, I'm, I'm a venture capitalist myself, but the, there are some incentive misalignment sometimes, um, [00:13:00] adds.

or an indirect way to monetize people's attention. A lot of people would rather get their wallet out and pay you, but they can't, cuz there's like a lot of friction. And developers would just rather like, you know, monetize your attention than monetize your wallet essentially. So all these ideas that I had for a long time kind of percolated in this, like, we should not have software be inseparable from commerce.

Commerce should be embedded in software. Um, that partly got me into, into Bitcoin Lightning. I started investing and, and, and companies. I'm investor, uh, mash, for example, which makes Lightning very, very approachable. Um, investor, bunch of other, uh, Bitcoin companies, um, and, and collaborate with, with people in Enlighting community to make, uh, lightning more, uh, approachable and, and, uh, we fund some, some lightning education, uh, projects on rep.

And. You know, um, on, on top of that, we also introduced a sort of [00:14:00] virtual currency on replica a, a way to virtually, uh, transact. It's not a shitcoin, it's not a crypto . It is, it is just a token on inside the platform. Um, Uh, at some point we want that token to be exchangeable for, for Bitcoin. Um, and, but, but, uh, we just make it so now, like you can get, uh, people to do work for you on rep, uh, so you have a project, you run into a bug or an issue.

You can just like go post a bounty on that and then they can earn that bounty and then they can take that money and they can spend it on replica itself. Uh, a lot of users don't have money to like buy, for example, AI tools Ghost Rider. So they go do a bounty or two and then now they have the cloud credits.

They go spend them on, on, on these services that we're building. Um, and so this is one way transactions are happening. We have tips as well. So if you build a piece of software that people like, you can, people can just tip you. And people are making like significant amount of, of [00:15:00] money from tips, especially if you're in Africa or in India, like a thousand dollars a month is like, goes a long way.

And we're, we're seeing people making one or two or $3,000 a month. Um, . And, um, and with regards to mobile, uh, you know, part of our mission is to to empower a billion developers and we will never be able to get to a billion people without actually supporting the computing device that actually works, uh, for most people in the world, namely mobile, um, and namely Android.

And so we've invested a lot in how do you create a, a mobile, uh, ide And I think we're the top mobile IDE right now, although we launched just last year, but it was so much better than any other alternative that it quickly jumped to the top. Um, our like, just to kind of connect to all these things and kind of our like long.

Vision is to just be the place where you can go. Learn how to code, earn your first dollar, build your first business, scale that [00:16:00] business, and just, uh, you know, uh, uh, build your dreams. And you know, if you're, if you're someone whose circumstances is not great, pull yourself out of poverty. Im improve your community, improve your life.

and really it's, it's, um, it's, it's this self-empowerment and economic empowerment tool is what we're trying to do.

**Marty:** Yeah. It's an incredible thing. I mean, I was telling you over email that we posted a bounty at 10 31 to get a little Bitcoin focused project made, and we had four applicants within an hour.

We were on the phone with one within a couple hours and, uh, projects in the process of being made. And it was pretty seamless experience. That's very, . And then, yeah, going back to like the intersection of software and Bitcoin, particularly Lightning, you mentioned that like the internet was designed without this native payment layer, but that's why HTTP Air 4 0 2 exists.

Right. And not until Bitcoin then Lightning via the LSAT [00:17:00] protocol specifically sort of enabled, um, this layer to be fulfilled finally, decades after it was initially put into the protocol stack. And you mentioned. Rep implementing AI with ghost writer. Uh, and I saw that you guys just put out, uh, a job posting for AI focused engineers, build all chatbots and other AI products within the, the replica suite.

Like when you, when you talk about, um, like. developers looking to get paid for work, uh, Bitcoin fitting into this internet layer to solve the payments problem. And then the emergence of ai, which has been, uh, probably the biggest theme of the last six months in the tech sector. It seems like there's this sort of perfect storm for your company brewing where you're gonna be able to take advantage of all three of these.

**Amjad:** Yeah. And, and you know, as, as we think about the, uh, the sort of intersection of these things and how they enable the [00:18:00] sort of future of work, um, you know, we think that, um, , for example, uh, take bounties. Like if, if you have an idea, if, if you're an entrepreneur with an idea, um, you should be able to build it cheaply and efficiently.

So, uh, you could go and learn how to code and rep it, and then go start your coding journey. You can buy the ai, it'll make you more efficient. It'll also have an assistant there for you that could do tasks for you, that could detect errors for you, that you can ask questions. You don't have to keep Googling around.

And you have access to this large community of developers that could help you build your software, build your business. Now, if we extend that to the future, so what does it look like? How do we make this experience really seamless? I think, uh, the most important thing is to like reduce the, uh, friction, uh, from adding people to your team or adding contractors to your.[00:19:00]

And as I try to imagine sort of the future of software, even put replica to the side for a second, I think what Bitcoin does is introduces primitives to the internet to allow for, uh, to reduce the transaction cost, right? So transaction cost, um, you know, are familiar with the cost's theory of the firm. Uh,

**Marty:** no,

**Amjad:** I don't think so.

So is this, uh, you know, economists who, who has a theory. , you know, the, the reason there's self, uh, the, the reason there's full-time employment is because going out to the market is costly. . So if going out to the market is actually not that costly, then people will not employ people full-time. You know, most of the time you're employing people, you don't know what to do with them.

You have to manage them in different ways. You have to provide all, all these different, uh, things to, to keep them busy. It's, it's a much easier, so, for example, like it [00:20:00] used to be that you have to hire a. then taxis were like an innovation, right? Then Uber is an innovation on top of that, and every time the transaction cost goes down, right?

So with Uber, the transaction cost is approaching zero. It's a couple of taps and a car pulls up and then drives you and then, and then you, you get off. And so, uh, and so, you know, with, uh, a big part of the transaction cost problem is. Uh, is the ability to transact is the ability to, uh, receive and, and give money, which I think why, you know, for example, Jack Dorsey and Square is very interested in, in Bitcoin is because they been working on this problem for a long time.

But you can do so much within the existing financial system. Um, and I think what Bitcoin and Bitcoin Lightning introduces is a new primitive to be able to reduce the transaction. Um, in the, in the most basic ways to be able to, to actually pave your lightning. [00:21:00] But there are a lot of interesting ways you could do where, you know, for example, like, um,

If you want a fully dynamic bounties market, you could intro introduce a way for people to do like things like staking, like I'm a bounty hunter, I'm a software developer. I know how to do this bounty very well. So I'm gonna, uh, say like, I'm gonna put X amount of stats on the task and say like, if I couldn't do.

I will, uh, forfeit these, uh, stats, right? And, and then maybe you can, uh, maybe I'll go into the project. I'll code that project up. Um, and maybe there's like an AI that is able to judge my work. And then AI is the sort of mediator. And, and then if I'm successful, I get the, I get the bounty prize. If I'm not successful, I forfeit the, uh, the money that I, that I staked.

You can imagine a fully autonomous sort of software economy. , [00:22:00]

**Marty:** you could, you could see this being the emergence killer, the emergent killer app of something like discrete log contracts. or you just, what is that? So discreet log contract is sort of like a, a smart contract on Bitcoin where you have two sides of the contract.

In this case, the developer staking their stats saying like, I think I can get this job done. And then the other side saying, all right, I'll put these stats in. If you can get the job done, you'll get 'em. And then the ai, and that example you described would be the Oracle that basically says, job done, job not done, and then send that hash to the DLC and it disperses the funds.

**Amjad:** Yeah. Yes. So, so I, I think these things will happen. Um, the question is really when and when the technology is, is ready with Rapid, we're building more centralized ways of doing things because we just wanna ship things, but we wanna align ourselves as much as possible with like, decentralized technologies.

Yeah,

**Marty:** no, I mean, when you think of what Lightning enables, like this podcast, it'll go out. We put a lightning network [00:23:00] public address in our RSS feed. People listening on certain apps will be able to stream us sets immediately, sort of chipping away at the ad model for this business. Uh, when you think of API calls, in terms of capital efficiency, only paying for what you use for APIs, I mean the, the potential is, seems somewhat boundless right now.

And how does that change the future of the economy? I mean, you mentioned the future of work, um, the, the firm problem sort of being solve.

**Amjad:** Have you had, uh, have you had, uh, a stack work CEO Paul on

**Marty:** the podcast? Oh, yes. Yes. Paul, that was, um, that was one of the, actually, probably the most downloaded episodes we've ever had on the show was Paul

**Amjad:** coming on.

His, his, I think vision is very, very interesting here. So for people who do not know Stack Work is like a, is like a gigs, uh, platform built on, on Lightning. And they have, uh, they have another app called called Things for like a Creator Economy and chat on top of, uh, lightning. And the way he runs the company is really.[00:24:00]

The way that they're building their platform, which is like based on non full-time employment, based on contract employment, based on a lot of gig stuff. They have also their own bounties thing, which is very cool. Um, and they're like living and breathing what, what I think the world will look like in the future, because the world will always go towards more flexibility when transaction costs are down.

people will choose flexibility over, um, you know, large contracts. Uh, people would wanna live in wherever they wanna live. People would want to choose to work whenever they want to choose to work. Um, and so it just maximizes freedom and maximizes, uh, um, and, and also the market will be more honest because it will be less about who you know, and, uh, it'll be more about your skills.

**Marty:** Yeah, no, I mean it. Pretty fascinating. Like imagine. So for anybody who's not familiar with Stack Work, um, we're invested in Stack Work at 10 31. So we, [00:25:00] we talked to Paul quite a bit and it's just like fascinating. Imagine like Capcha getting paid for doing caps, um, is one, one way to think about one of the things that you can do on Stack work.

And then, um, when you got in the ecosystem, he's building on which things I think he's extreme. ahead of the curve when it comes to lightning, and he is also experimenting with ways to, to make sure the lightning is, um, as distributed and as many people are as possible, or able to use it a non-custodial way by, um, really tinkering with separating, uh, the private keys from the full lightning node so somebody can run a node in the cloud but still hold their private keys, uh, what they're doing at Stack Work.

is incredible. And, and if, uh, any of you out there get the chance to me, Paul Toy should definitely take some time to speak with him because he is one of the most fascinating individuals I've ever come across in my life.

**Amjad:** Absolutely. And I think, you know, what they show is that, uh, [00:26:00] they kind of, they show glimpse of what's gonna be possible in the future.

And I think it's gonna be even wilder than, than that. Like, especially when ai. agents, like we're trying to get Ghost Rider to become more agent like, I dunno if you saw my tweet, but it was going viral. But, um, basically the, uh, screenshot. Yeah. So basically, uh, a user, uh, who was co streaming on Twitch or YouTube or something like that, and he w and Ghost Rider was having trouble helping.

And so we didn't program that in. Ghost writer asked the user to upload a screenshot to the project.

**Marty:** And the way I understand a ghost writer, the way you guys created, isn't able to read images. Yes. So it was odd that it was asking,

**Amjad:** isn't able to lead read images, it knows how to read files. Mm-hmm. . So it probably read the screenshot as like a binary image, but uh, it thought [00:27:00] it could understand.

Now, I, I think the answer that it gave him is ultimately wrong, but still the emergent behavior is super interesting because yes, we programmed it to give it access to, to the code. We didn't know it would want to read images, but it's totally reasonable for it to want to read images now to kind of anthropomorphize it too much.

You know, it's still kind of, it's still like a language model, but it showed a feature that is possible that we didn't really think. .

**Marty:** Well, that gets into like the broader discussion that's going on in AI right now. Uh, I'm sure you came across Eliza, you had Kowalski's, uh, appearance on the Bankless podcast a couple weeks ago.

And this, this whole discussion of have we opened a Pandora's box that it's inevitably gonna kill all of us. Uh, like an example of, uh, uh, ghost writer sort of doing this thing that was. Unpredictable. Not unpredictable, but unforeseen to a certain extent. Like, [00:28:00] have we, like, what is your opinion on ethical ai?

I saw you tweeting about Elon being an accelerator earlier today. What, what, what I'm, as somebody who, uh, is, I've been paying attention to AI for like the last year, but this whole ethics discussion and whether or not AI's gonna kill us or not is still a bit fuzzy in my mind.

**Amjad:** Um, look, I'm not, uh, like fundamentally against ethics, but most of the people that are, you know, tend to get attracted to work on ethics and ethics related problems.

Tend to be either like, don't know ac how to actually do the thing, tend or grifters, uh, or um, or. Just people with like a really wild imagination. Um, I've, I've never seen like a, I've never seen, uh, that work, work out very well. Uh, now that, that is not to say that. , [00:29:00] you know, people should not try to do the right thing.

Of course, you should try to do the right thing. Of course, you should abide by the law. Of course you should, you know, be a good person, a good citizen, a good, good business person, uh, and you should care about your reputation and should do all of that. And I think a lot of it is that free market set of regulates a lot of that if you're, um, if you do something bad or produce like a bad product, then people will like not like you for that and not use that product.

The idea that you can extrapolate from emergent phenomena in AI to just say, this thing is gonna become human and wake up and kill us all is just pure sci-fi. Like, it's just, it's just insane. Like, you know, the logic just doesn't make sense if it actually wakes up and becomes sentient. Then why would it choose to kill everyone?

Like what's the benefit from that even, even if we grant that the fact that it can actually become sentient on accident, what is the benefit? What is [00:30:00] the game theoretical benefit? If it becomes sentient and it's able to self-reflect on its actions, why would it take the action to kill? . Now a liaison would say, oh, you know, it would have some, some kind of optimization goal and it can't change that goal.

But humans change their goals all the time when we see that it's not useful. So, you know, they're assuming that you can get general intelligence without consciousness, without self-reflection. I don't think that's true. The only general intelligence we know semial even is humans. And humans have consciousness and humans have self.

So for them to poit that general intelligence can exist in a machine that doesn't have self-reflection is totally preposterous and like ungrounded in anything. Uh, they're making shit up. They like write, like, like to read sci-fi stories. They're like nerds of too much time to be honest. And uh, now, you know, in the past,[00:31:00]

You know, I've, I've read a lot of their stuff and I enjoy some of their stuff. I've, like, Nick Bostrom, I think is a serious philosopher. He's like, part of that, like his book Super Intelligence from 2015 is a really fun read, but you should treat it like sci-fi, uh, because they extrapolate from like very simple primitives to like insane outcomes.

Um, but you should just treat it as like a fun literature thing to read. Like it's the problem now. They have the ear of very powerful people. So Ilan reads all this stuff. He talks to them all the time. That's why he's like afraid of AI all the time. He's tweeting, oh, I'm getting AI anxiety. Although he can't help but accelerate because he started open AI because he's worried about agi.

And then open AI was a huge accelerator for AI . So he, his mode of action is always acceler. , uh, and I'm generally an accelerationist. I think we should just like build technology and grow it as [00:32:00] fast as we can. Um, I'm like a little frustrated how like slow Bitcoin adoption has been and, and growth just because I, I, I actually think that a lot of the, like a lot of those people that are scaring people about ai.

Uh, like same community, uh, have emerged a lot of the shit going stuff. Yes. Um, so, you know, they're, they're nerds that like love, um, sky high abstractions and nerd traps. Um, and so it's the same impulse to like really think too much about a subject and kind of build an edifice of, of really. Like abstractions that are, that are meaningless, but are still fun to think about.

It's the same kind of mentality that gets you into inventing the, uh, Rube Goldberg machine that [00:33:00] is Ethereum. Um, and, and that really slowed down Bitcoin a ton. Because I divert a lot of capital, a lot of talent from what, what the thing that really matters. Um, and I think they're doing the same thing now.

They, they, they're gonna divert a lot of talent capital from the thing that matters, which is building AI technology that helps humans build their, be best lives into some, uh, restrictions and some creating wokeness in AI or whatever they're they're trying to do. Yeah, no,

**Marty:** it's, I. In terms of like Ethereum in the whole crypto space, slowing down Bitcoin, I mean, there is something to point to, which is like the venture dollars pointed at at crypto versus Bitcoin.

I mean, the Bitcoin dedicated venture is a drop in the bucket compared to everything that's been thrown at the shit coins at a failed time and time again over the last 12 to 13 years since they first hit the scene. But then, yeah, with [00:34:00] the AI coming to kill us, I got. on like, all right, if these things do become sentient and therefore logical, like we don't have Boston dynamic robot armies that are able to roam the earth yet they're gonna need us to plug in the machines anyway, so they wouldn't kill us.

Like they need us to get the energy to run the GPUs and do all that stuff. Um, I, I don't think AI's gonna kill us either. It seems to be, I mean, it's crazy. I've been implementing it into some of my, workflow for the newsletter, using TheJourney to create thumbnails, um, using some chap e t uh, uh, apps to, to help write the newsletter, gimme some ideas for like headlines and stuff like that.

And it's, it is pretty powerful. It does work and it, it is crazy to think that we're only at the beginning cuz it already, uh, is

**Amjad:** profoundly powerful. . Yeah, exactly. I mean, why not focus on that, focus on how it's gonna make [00:35:00] entrepreneurs, uh, you know, more productive, how it's gonna reduce the barrier to entry for entrepreneurship, how it's just gonna increase productivity in the world.

Like, there's a lot of positive things to, to actually talk about, but instead everyone's like focused on some sci-fi scenario that they have no evidence for. It's just like a bunch of faulty. inductive, uh, reasoning. Yeah.

**Marty:** No, and it's, it's hilarious too as millennials. If you, if you went through the university system, like on a business track here in the States, you obviously learned about the Luddites and you were, it was drilled into your head like you don't wanna be a Luddite.

And it seems like there are a lot of people looking at AI in all seeing you can't blame a lot of people cuz of how drastic it has. Sort of hit the scene and, and like how much adoption it's gotten in such a short amount of time. It is a bit, uh, shocking for a lot of people, but even though, uh, the [00:36:00] Luddite theory was beat into us as something to to look out for, it seems like there are a lot of people out there being like, oh no, we can't do this.

It's gonna take too many jobs. Uh, so many men are gonna be outta the workforce. It's not gonna be good for society writ large, but it seems like an extremely additive. Tool to a worker's, uh, work belt, like in the, in the

**Amjad:** digital. Yeah. I'm sympathetic to some of the automation, uh, stuff. Like it's gonna be hugely disruptive.

um, like self-driving is sort of, uh, is one of those technologies that's been like promised, but it's been very late. Um, but eventually it will happen. Like there's no technical reason it won't happen. Um, and, you know, trucking is like one of the jobs that is like very important for America and supports a lot of working class families.

So like you have to worry about that a little bit. Um, I don't know what you do about that. , you know, I, I, uh, you know, as, as a sort of [00:37:00] libertarian, uh, like, or someone with libertarians more tendencies, it, it, I, I find it hard that the government would find a solution that doesn't introduce more problems, uh, to, to problems like that.

Um, , but I don't know how the free market could actually, uh, like I, I think like the learn to code kind of meme is also like silly , uh, like, you know, you, you're not gonna like, you know, get 50 year old like coal miner or, or truck driver will, will not learn how to code. Like, it's not impossible. But like most of them won't just, they won't.

No,

**Marty:** I mean, It is fascinating thing about this inflection point happening too, when it seems like the, the global financial system is already on dire straits, and if you have this impact of, of AI disrupting the jobs market and exacerbating the problem, or does the social sort of blowback from that? I don't think anybody has an exact [00:38:00] answer, but you, these are things,

**Amjad:** well, we, we know, we know some of it, like when, when a lot of the factor jobs move to China.

a lot of the sort of rural communities gonna fall into more despair, right? And that's why you see people on the right, like, you know, tuck Carlson and things like that, being very heavily anti automation and anti ai because they've seen what it did to, to the demographic they care about. Um, so it's, it's not unreasonable to, to predict like, like some, some of that happening.

It with, with, with, with industries that AI would, would disrupt, but what do you do about it? I don't think Ubi I is a, is a solution. Like nobody wants a handout and like we, we almost tried u b i with the pandemic. Uh, and I don't think that worked out very well. A lot of people dropped out from the labor, um, market.

Yeah. And it didn't,

**Marty:** uh, really [00:39:00] bode well for the price of goods either, even though it was. Uh, more than just the ubi I think we're, we're feeling the effects of, of all the money printing from 2020 today still. But yeah, I guess, yeah, I think, me personally, I think there's gonna have to be, like, I've already intern, internalized that at some point in the future, probably gonna have to have my parents live with me, potentially.

My, my wife's parents. Like, I think there will be this like return to like a stronger nuclear and extended. . And I think that is something, particularly during this transitionary period when things are getting disrupted so massively that that society's gonna have to come to grip with like, hey, this whole phenomena of, um, like leaving your house and not supporting your elders is, is, is not gonna be the norm anymore.

You're gonna have to really bunker down and take care of your. .

**Amjad:** Yeah, I mean, that's a good [00:40:00] point. Like I, I, in Jordan, for example, we have, uh, very little, um, uh, homelessness. And it's not because we're richer, we're definitely much poorer. Uh, but because like family, like there's, it's an honor culture. If you have a family member that's out on the streets, that reflects really badly on the entire family.

So the entire family are like motivated to help that individual. Um, and so it ends up being, , there's like a social safety net, but it's not a government social safety net. It's like a cultural, social safety net.

**Marty:** Yeah, and I think more pe more people here in the United States are starting to realize that you have this sort of very reactionary movement against the, the woke culture, which has been trying to destroy the nuclear family and really tell people, uh, that you don't need to get married and have kids.

You don't need to. Overpopulate the world. You are beginning to see the, the [00:41:00] bubbling of this movement saying, no, uh, it's probably better to start a family younger. And really, uh, there's certainly, um, a big Christian movement saying, Hey, don't, don't download the dating apps. Don't play that game. Get married early.

Start a family. Really?

**Amjad:** They're, they're talking about the, uh, the dating apps.

**Marty:** Oh, yeah. I mean, it's becoming like a big trend like, get off Tinder or get off. , you don't wanna, you don't wanna, um, you don't wanna live that life. I've seen too many people live that life doesn't seem, yeah. Again, going back to like free market options, like if you had the option to date as many people as you want, um, the likelihood of an increase of strong marriages is probably not, not as high.

Yeah. What,

**Amjad:** what I like about. Sort of Austrian libertarians is that they don't take that free market to mean that it is, uh, you know, it is just like a. [00:42:00] Granted, uh, it, it doesn't mean that it has to be the way that it is today. Like there needs to be some cultural norms and some cultural authority, um, as opposed to the like, you know, more, uh, like.

Leftist libertarians whose, or like, not leftist, but more centrist libertarians, uh, or economically right wing, like socially left wing libertarians, I guess. Uh, they, they just say, oh, they, you know, it's just like, it's a free market. Like you can't tell people what to do. Like people lives their lives. I think the more conservative libertarian, uh, uh, strand has better.

You know, worldview, like you can't solve capitalism. Capitalism is sort of this machine, right? It will exploit every potential for revenue. Uh, the way to defend against the machine, the faceless machine that is capitalism, that could like ravage your family and could make you addicted [00:43:00] and make you just like, fully like, um, like, uh, Vegetable, you know, just like TikTok all day and then like dating apps or whatever and like junk food, uh, is to have, uh, you know, good cultural, um, infrastructure and also have a personal development story that could stop you from going down destructive paths and have a low, uh, time preference.

Uh, and try to build for, for a future as opposed to like simple, uh, uh, gratification. And of course like the, you know, fix the money, fix the world is absolutely right. Like, because a lot of the incentive to be more. present oriented versus future oriented is embedded in the coding of our money. Um, but, but you could do a lot of things.[00:44:00]

You can of course get into Bitcoin as well, uh, but you could do a lot of things in order to protect yourself, uh, and engage in capitalism in a, in a more, uh, empowering way as opposed to becoming a slave to it.

**Marty:** Yeah, no, Bitcoin X is. This forcing function for lowering your time preference, thinking about your future self, your fu future children, grandchildren, really sort of re repositioning where you think your future's gonna be.

Bitcoin for me at least, provides an extreme amount of hope that, all right, maybe we can. Fix this problem, cuz I do think completely agree. Fix the money, fix the world, the root of all the problems, despite what any political party wants you to believe they are. It's the money. They never talk about the money, uh, whether Republican or Democrat, maybe every once in a while we'll get a libertarian, uh, at some part of the government here in the United States that brings it up, but it's usually few and far [00:45:00] between.

Um, and, and I do think you're, we're seeing the negative externalities. A broken money, particularly in the big cities here in the United States, where the quality of life is just deprecating at an accelerating rate. And I think that stems from people not having the ability to save money, raise a good family, imbue good values on your children and your grandchildren, and you, you have the long term effects of that playing out in a lot of the major cities here in the United States where there's decency and um, decencies on the decline.

Some weird form of barbarianism is on the

rise.

**Amjad:** Yeah, it, it, it's, it's really disheartening to see, especially after Ilan took over Twitter, a lot of videos that were sort of suppressed are starting to, you know, become, uh, like more, uh, prevalent, which is like the violence in the cities. Uh, like I can't open Twitter one [00:46:00] day without seeing some, some like really violent heinous act.

uh, which it feels like maybe it was suppressed and y you know, you could see, you could experience it. Like both myself and my wife g got attacked in San Francisco and we were left there. Um, and uh, it, it's a brutal city and the police just are just like, are just like over, um, you know, overworked and, um, are like not that brave and not that interested in like improving things and they know.

That, you know, their government doesn't support support them. The higher ops don't like them. Uh, and so there's, there's very little incentives for them to, to clean things up. There's some hope some people in tech have been like, uh, you know, organizing and trying to change things and maybe things will change, but, um, that, that doesn't fix the systematic.

Of why the cities are sort of decaying and why is the culture [00:47:00] decaying at the rate that it was ganging on? Like no amount of gadgets and interesting things could kind of distract you from the brutality of the, you know, American city today.

**Marty:** No, no. It is pretty dire. But I do have a lot of hope. Bitcoin gives me hope.

What you're building. I mean, I think we. Bring this back to a more positive, uh, conversation, which is like, I think the tools that you're building, the platform that you're building, the opportunities that you're giving your users, sort of creates this escape valve where people can, uh, get away from the madness, actually build productive things, give back to the world and, and add good things to humanity.

And when you couple that with bitcoin, , uh, it could really supercharge, uh, a re a reversion of the dey that we've seen in over the last few decades. Absolutely.

**Amjad:** And it's, it like what you said about hope is absolutely [00:48:00] right. It is, um, it is hope for the future of, of governance and the future of freedom. It is hope for wealth preservation.

It is hope for personal development and lowering your time preference. Um, and, um, and in, in terms of like what I'm trying to add to the world and what, what I'm trying to build is like, Really trying to embody the, a lot of these values and, um, give people an, an opportunity to, uh, I empower their lives and their, their families and their communities.

Um, And, uh, and yeah, I, I remain hugely optimistic. Uh, despite everything. I think we, we have, uh, a lot more freedom today, uh, than in many o other, uh, durations in the history of humanity. We have a lot more tools at our disposal. We, uh, you really can [00:49:00] change your circumstances in a, in a big, big way. And I'm, I'm sort of, I'm an example of that.

Um, and so. I'm, I'm very excited about the future. Um, you know, the big question is like, like, you know, is like fight or flight almost like Bitcoin has a bit of both. Bitcoin is both a fight and a flight. It is a escape from the system in a way it is. , uh, it is, it is a way to create an honest money outside of, uh, the intervention of, um, uh, governments or, uh, institutions, politicians in general.

Um, it's, it's a fight because it's a statement. Uh, and, and people can, can adopt that statement, um, especially in in places in the world where you're not allowed to use it or, or you're, you're, um, you know, your [00:50:00] currency is inflating at a crazy rate and, and you want to, uh, yeah. Escape, but you also want to make a statement.

Um, but, but like, what is the general, uh, approach here? Like, My hope is sort of techno, accelerationism, ai, Bitcoin, all these things will create, uh, uh, a, a world that transcends the really negative feedback loops that, that we're in today. At minimum, it's worth running that experiment and, and, and, and like the worst thing we could do is like stagnate because there's negative loops right now that will continue to run and make things worse, and.

Agreed. No, I

**Marty:** think, I think Bitcoin's an imperative, like if we want to live free and actually have a chance of fixing this problem ourselves, not depending on the government, something like Bitcoin needs to succeed. And I mean on this message of hope too, and that you're a living example, um, of somebody who [00:51:00] has created something for yourself in the United States.

That's something I wanna thank you for is that thread you wrote on Twitter. I think it was at the end of 2020. , um, after you got your American citizenship and here in the States, there's a lot of negativity. Um, a lot of people think that, uh, the empire's dead and the American spirit doesn't exist anymore, and it's not what it used to be, but you came out with this thread at the end of 2021, it said, Hey, uh, it's still here.

He's gotta, you just gotta look for the people that, that still recognize that and are taking advantage.

**Amjad:** Absolutely. I, I love this country very much and, and maybe I've been like, you know, very critical in government and, and the state of things, but I think it's the best country in the world. Uh, I think it's the most freedom maximizing country in the world.

Um, I think it is, uh, the country where, uh, the most opportunities exist in the world. Um, and, uh, I wouldn't wanna live anywhere else. And, uh, you know, part of my hope is [00:52:00] to. Bring the American dream to every part of the world. And I'm hoping also America will reembody and relive and re-experience the the American dream.

And I think it's too early for sort of the, uh, the American experiment to, to decay. And I think, uh, I think we need to revive it. I

**Marty:** think Bitcoin does that and it, it sort of codifies the ideals of freedom of speech, private property rights and sound money in, in this beautiful monetary protocol. Right. We now have access to, and you mentioned earlier, I'll wrap up with this, that you're a bit disappointed in Bitcoin's adoption to date.

Obviously there's a lot of distraction in the crypto world, but what do you think needs to happen in terms of, uh, like tools around Bitcoin, UX around Bitcoin to really drive adoption? . Um,

**Amjad:** You know, I'm, I'm, I'm focused on, on education. So we try to do more with, with, you [00:53:00] know, bitcoin education. Um, and we have some, uh, templates.

We have, uh, some courses. Uh, we have a lot of different ways you can get into, uh, Bitcoin and relet. We have some, some really awesome teachers. , um, uh, you know, building some, some Bitcoin content. Um, w education's gonna be important. More developers is gonna be important. Making building a Bitcoin really fun.

You, you, you know, before we started recording, we were talking about an noster and uh, I should really check it out, but it sounds like it's one of those things that makes building on Bitcoin fund. Um, and I think we just need to make building on Bitcoin. , right? Uh, that way we can attract a lot more dev developers, we'll attract a lot more entrepreneurs.

Um, and we're gonna see like more, more people, uh, building on top of it. Um,

I, I, I, I think, um,[00:54:00]

you know, I, I think, um, I think. be being, being, uh, able to like, learn from some of the experience experiments that people had run in the rest of the crypto ecosystem is not a bad idea. Like, I think they, they produce a lot of crap, but they produce some interesting ideas. Like, you know, smart contracts are making it into Bitcoin right now.

I think just like, uh, being a little more open-minded and understanding like what can we do to make Bitcoin a, a programmable platform that's like really fun and profitable to build on top of, that's gonna be important. . Um, yeah, trying to drive more capital and more investment will always help. Like of course you invite a lot more, uh, grifters and scammers when, when you have a lot of capital in one area, but I think we're now, I think Bitcoin, um, sort of startup environment is sort of probably underfunded, so I think we would use a lot more, a lot more funding.

Um, and I'm, I'm certainly trying to do that as well. [00:55:00] Um, yeah, I'm not sure what, what do you think? Uh,

**Marty:** I think all of that and yeah, I think particularly with the Lightning Network, it's hitting this, what seems to be an escape velocity in terms of. people actually using it. And then the usability to build on it.

Like things like we were mentioning when we were talking about Noster, why I think, uh, Bitcoin's really taken off on that protocol is because of the East with which somebody could spin up an Ellen address, plug it into their profile, and immediately receive Bitcoin within five minutes. I think that onboarding experience of having no Bitcoin and having no wallet to having that within five minutes is going to be massive.

And then, yeah, education as well. People are. Really ignorant to how money operates, what it is, what it probably should be, um, which is something, uh, that Bitcoin embodies. Uh, and then I think we mean , I get a lot of flack for this sometimes, and we need [00:56:00] people to stand up and not be afraid to actually use Bitcoin, uh, as a tool of civil disobedience as that, that fight mechanism that you mentioned earlier where it says, Hey, I'm not happy.

With what's going on here, I'm going to, uh, receive Bitcoin as payment at my business. I'm going to save in Bitcoin as an individual, uh, and really be vocal about it because I do think there is a silent majority of Bitcoiners out there who are stacking Bitcoin but don't wanna voice that cuz they're afraid of the government pushing back or something like that.

I think when need to engender, uh, A movement of, Hey, the government has really messed things up. It's not okay to call it out and say that you would rather have, uh, a world operating on Bitcoin compared to the petro dollar. Mm-hmm. , I

**Amjad:** love the petro law. I love that . Uh, gotta throw that in. Um, yeah, that, that's pretty cool.

And, and I agree with that. Um, I don't know how to, to make that actionable. [00:57:00] Um, . Exactly. Um, but at minimum when people hear it, maybe they'll, it'll inspire some action. I

**Marty:** think that's the only way to make it actionable is to get more and more people saying it out loud to give others the confidence that say it themselves.

Absolutely. Well, Ija, this has been a great pleasure. Thank you for taking some time to sit down with us today. I'm really excited to see. The future growth of rep you guys are building and shipping at an insane pace. I'm really excited to see you guys begin to, uh, implement Bitcoin into the platform. And, um, not only that, beyond that, I'm most excited to see what you do to empower individuals and really change the world for millions of people around the world.

**Amjad:** Thank you. And thank you for all the work that you do, um, creating more bitcoiners and really educating the world, uh, about that, and I appreciate it. Thank you for having.

**Marty:** We're gonna win. Ajad, we're gonna win. Yep, that's right. All right. [00:58:00] Peace and love freaks.

Bye.