

# ByteSizeBuilders

## Revolutionising Web3 Developer Education

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Developers are the most valuable currency in the Web3 ecosystem. Developers build every major chain, breakthrough protocol, and innovative application. ByteSizeBuilders is an ambitious program that will create the next generation of Web3 developers through innovative, AI-enhanced education across multiple ecosystems, starting with Solana, Ethereum, Base, and Bitcoin.

## tl;dr

ByteSizeBuilders offers a 14-day intensive bootcamp and a 6-8 week comprehensive program, leveraging AI-enhanced learning, video-first education, and modern pedagogical approaches guided by open source principles. We aim to transform Web2 developers into Web3 builders, while leveraging AI to 10x the education speed, and developer output. While traditional bootcamps cost \$10,000-\$15,000, we're making this education extremely cheap (with refundable commitment deposits) through community sponsorship, and we will ensure all materials remain open source. Open source contribution is part of this process, because we do not believe throwaway capstone projects make sense. We estimate that we will spend \$1,000 per educated developer, with costs going down as we have more technological advances. **The goal is to educate 1,000 Web3 builders in 2025.**

## Why?

### The Developer Imperative

The blockchain space faces a critical inflection point:

- Ethereum maintains a steady 15% YoY developer growth<sup>1</sup>
- Solana growing at 11.2% (up from 5.1% last year)<sup>2</sup>
- Base launching with Coinbase's massive user base
- AI Agents meets (crypto) currency
- Currently, there is a significant shortage<sup>3</sup> of developers in the crypto space. This scarcity is not just a matter of numbers, but a crucial factor in driving on-chain value and attracting end users. Your support can help bridge this gap and contribute to the growth of the entire ecosystem. Worse, there tends to be a lot of outdated documentation, and the learning curve can be higher than expected<sup>4</sup>, even when the chains have good developer education (the developer experience needs work). This is not to mention everything lost by posting on walled garden social media, or Discord chats that never get indexed by search.

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<sup>1</sup> <https://a16zcrypto.com/posts/article/state-of-crypto-report-2024/>

<sup>2</sup> <https://builderenergy.a16zcrypto.com/>

<sup>3</sup> <https://crypto.news/developer-shortage-in-the-crypto-space-is-where-the-real-problem-lies-opinion/>

<sup>4</sup> [https://www.reddit.com/r/solana/comments/1e3rgun/solana\\_development\\_too\\_frustrating\\_to\\_learn/](https://www.reddit.com/r/solana/comments/1e3rgun/solana_development_too_frustrating_to_learn/)

# The 10x Engineer Evolution

The concept of the 10x engineer is evolving. Today's builders must:

- Leverage AI to automate routine tasks
- Build composable, reusable solutions
- Create tools that empower other developers
- Focus on high-impact architectural decisions while driving innovation through efficient problem solving
- Be one with the open source movement

At ByteSizeBuilders, we will create these 10x engineers by:

1. Teaching AI-first development practices
2. Focusing on architectural thinking over rote coding (LeetCode gets solved by LLMs, and hackathon projects disappear far too quickly from the Internet; the goal is longevity)
3. Building with scalability and reusability in mind
4. Emphasising tool creation and automation (build tools in the open, others can build on top of it, too)
5. Fostering a multiplier mindset (use public goods, create public goods)

So, let's get past the technical complexity, infrastructure challenges, user experience issues, and sometimes fragmentation from interoperability. These high barriers to entry and occasionally ethical concerns over speculative investments or reputation are also why we believe ByteSizeBuilders would be the ideal program. It's not just about teaching, it's about changing mindsets. Our audience plays a crucial role in this transformation.

## What Makes ByteSizeBuilders Different?

### Video-First Learning Revolution

Modern developers learn differently:

- 60% of developers aged 14-23 prefer video learning<sup>5</sup>
- Optimal 6-minute<sup>6</sup> video length for maximum engagement<sup>7</sup> (with a maximum of 18 minutes, TED-talk style)
- Visual demonstrations for complex concepts<sup>8</sup>
- Real-time problem-solving sessions
- Interactive coding workshops

### AI-Enhanced Development Environment

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<sup>5</sup> <https://plc.pearson.com/en-GB/news-and-insights/news/new-research-finds-youtube-video-drives-generation-z-learning-preference>

<sup>6</sup> <https://up.csail.mit.edu/other-pubs/las2014-pguo-engagement.pdf>

<sup>7</sup> <https://pmc.ncbi.nlm.nih.gov/articles/PMC9510322/>

<sup>8</sup> <https://www.pearson.com/en-us/higher-education/insights-and-events/teaching-and-learning-blog/2022/10/improve-learning-by-adding-video.html>

We're creating force-multiplier developers through:

### **AI Development Acceleration**

- Custom LLM prompts for blockchain development (prompt engineering!)
- AI-powered code review and optimisation
- Intelligent debugging workflows
- Automated test generation
- Smart contract analysis and verification (audit before auditors)
- AI-assisted documentation generation

### **Force Multiplier Tools**

- Automated boilerplate generation
- Smart contract templates with AI customisation
- Intelligent refactoring suggestions
- Security pattern recognition
- Performance optimisation recommendations
- Leverage open source, contribute to open source, make open source code

### **10x Workflow Integration**

- AI pair programming practices
- Automated code quality checks
- Smart documentation generation
- Efficient problem-solving frameworks
- Rapid prototyping tools

## **Modern Pedagogy**

The educational approach is built for a remote-first, AI-enhanced world:

- Micro-learning modules for optimal retention
- Active learning through real-world projects
- Peer programming with AI assistance, and the entire cohort
- Continuous feedback loops
- Community-driven knowledge base
- Gamified learning progression

Our clear emphasis on open source development might be the biggest differentiator, because we believe traditional bootcamps miss out on this. We take a leaf from Google Summer of Code.

## **Two Learning Paths**

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### **Intensive Builder (14 Days)**

You go from zero to shipping in 14 days, giving you rapid proficiency. This is targeted towards the entrepreneurs who believe they understand how to get product-market fit, but just need that “founding CTO” — become your own CTO! Built to scale out.

- 4 hours daily of structured learning (mixture of videos, coding, and interaction with the chat)
- AI-assisted development from day one

- Daily coding, hands-on project building
- Community support
- Lifetime access to materials for \$99-\$199 (scholarships to waive available)

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## Comprehensive Builder (6-8 Weeks)

Ideal to master, and go thru a career transition. You're experienced with Web2 development, or not quite there yet, but want to become proficient as being a Web3 builder, this is ideal for you. You are either going to become an entrepreneur or get a job first, and then progress to being an entrepreneur.

- Everything in Intensive Builder but with a deeper focus
- Cohort-based collaborative learning
- Deep protocol engineering
- Advanced security practices
- Industry mentorship
- Portfolio development (you will work on open source, or whatever you make, becomes open source)
- Job placement assistance
- Commitment fee of \$250-500, refundable upon 90-days of holding a job (scholarships to waive, available)

Besides the languages of the blockchains (e.g., Solidity, Solana Rust Programs, or even TypeScript to Rust via transpilers like Poseidon), builders will typically use JavaScript/TypeScript and Python. They will use IDEs (e.g., Code with Copilot, Cursor, Windsurf Editor) paired with LLMs (e.g., Grok from X, Claude, ChatGPT, Gemini, or even Llama).

We do not consider MOOCs (e.g. metaschool) competition (their completion rates average at 5%, but may increase to 7-10% depending on course length, assessment, and gamification). but we do see some *coopetition*, thus validation that variations of this model (bootcamps) works: the Turbin3 Builders Cohort, ackee School of Solana (which also has a focus on audits), and Narra8ive (targeting the Indian market). Rise in, while laudable and free, is not what we're after. We have gone through Alchemy University and think it is very basic for copy-paste-styled engineering, similar to Metana's lengthy Web3 Solidity program.

We are also not marketing or targeting existing Web3 builders; we are going after the Web2 builders, to expand the developer base. Recycling of Web3 developers happens a lot across chains! This does not grow the pie, unfortunately.

Market validation comes from similar programs in the database world: A recent course (High Performance SQLite) sponsored by Turso for \$250,000 has generated over \$217,000 in revenue, with 1,213 students paying \$179 each. A newer program (Mastering Postgres) sponsored by xata charges \$249 per student, demonstrating growing market demand for high-quality, specialised developer education.

# Sponsorship Packages

**Our Goal: Training 1,000 Web3 builders in 2025 through AI-enhanced education**

## **\$15,000 – Innovation Catalyst Tier**

**Direct Impact:** 15 developers funded (they will know you sponsored their education)

### **Brand Visibility**

- Logo placement on website and materials
- Recognition in graduate projects

### **Core Benefits**

1. Talent Pipeline Development
  - First-look access to AI-matched graduates
  - Direct mentorship opportunities
2. Technical Integration
  - Your API/tools integration in curriculum
  - Custom technical workshop slot
  - Student projects addressing your challenges

## **\$25,000 – Ecosystem Builder Tier**

**Direct Impact:** 35 developers funded (they will know you sponsored their education)

### **Brand Visibility**

- Featured logo placement
- Recognition in technical documentation

### **Core Benefits**

1. Technical Leadership
  - Co-create learning modules
  - Integrate tools into learning paths
  - Custom AI prompts for your platform
2. Enhanced Talent Access
  - Custom cohort focused on your stack
  - Priority graduate matching
  - Quarterly skills analysis reports
3. Innovation Access
  - Propose technical challenges
  - Access to specialized graduates
  - Joint tool development opportunities

## **\$50,000 – Technical Pioneer Tier**

**Direct Impact:** 88 developers funded (they will know you sponsored their education)

### **Brand Visibility**

- Premium logo placement
- Co-branded learning materials

## **Strategic Benefits**

1. Technical Alignment
  - Custom AI-powered learning tracks
  - Core curriculum integration
  - Project specification input
2. Innovation Leadership
  - Dedicated working groups
  - Priority tool implementation
3. Premier Talent Pipeline
  - Custom specialised cohorts
  - First access to top graduates
  - AI-powered talent matching

## **\$100,000 – Visionary Builder Tier**

**Direct Impact:** 188 developers funded (they will know you sponsored their education)

## **Brand Visibility**

- Headline logo placement
- Founding visionary partner status

## **Transformative Benefits**

1. Strategic Partnership
  - Joint research initiatives
  - Early access to innovations
2. Maximum Impact
  - Largest trained developer pool
  - Direct curriculum influence
  - Ecosystem leadership position
3. Innovation Leadership
  - Next-gen tool co-development
  - Custom AI models (GPTs, Projects)
  - Priority innovation access

## **Impact Measurement and Sponsorship ROI**

Here is a sample of the regular updates to be provided on:

- Developer placement rates (and beyond)
- Project launches that can be a base for others to contribute to, adoption rates
- Community contributions to existing projects (open source public goods)
- Success rate of graduates' pull requests to projects
- Learning outcomes
- Ecosystem growth metrics

Cohort sizes are limited to 100 per cohort, much lower than a typical university class (150-300). This can be increased over time, once operations start scaling up, while maintaining quality, by doing focused tutorial groups.

Your sponsorship will revolutionise Web3 developer education at a critical moment. The global underemployment crisis demands immediate action: Malaysia sees 36.8% of graduates underemployed with 2M in low-skilled roles, while 40.6% of US college graduates struggle to find fitting careers. In the EU's struggling regions, only 67.5% of graduates secure suitable employment, particularly in Italy, Greece, and Romania. The UK faces a 12.7% graduate unemployment rate affecting 96,000 annually, China grapples with 18.8% youth unemployment, and South Africa confronts a stark 32.1% overall unemployment rate.

Our cutting-edge program bridges the gap between untapped potential and industry demand. By supporting us, you're not just investing in education – you're building a global pipeline of Web3 professionals who will drive the next wave of blockchain innovation.

Join us in shaping the future of blockchain technology. Your investment will empower graduates to become the next generation of Web3 innovators, creating lasting impact across the global blockchain industry. Take action now to be part of this transformative journey.



## Timeline

Material development has already started. We plan to start **marketing this (before Friday 13 December 2024)** for the quiet holiday season (Christmas-New Year's) and start the **first cohort in mid-January 2025**.

## Why Bet On Colin Charles? (The Chief Instructor/ Cohorts Lead)

He is no stranger to the world of free software, and open source, having been an early employee at MySQL, and co-founding MariaDB Server. He previously also spent time working on OpenOffice.org<sup>9</sup> (and maintained the popular unofficial FAQ<sup>10</sup>), and was on the first FESCO<sup>11</sup> of The Fedora Project.

No stranger to developer education, developer experience, and harnessing external contributors to make code happen faster, he was the first "community engineer" at MySQL in 2005 (a role that encompassed development, but also growing and keeping the community first — this was developer relations long before the term existed). He was the administrator, and mentor for Google Summer of Code for MySQL/MariaDB from 2007<sup>12</sup>-2016; people stuck around<sup>13</sup> the community, and more importantly, many were hired by companies within the ecosystem.

He open-sourced learning guides in 2004 for OpenOffice.org and Linux<sup>14</sup> and was also contracted by the United Nations Development Program to create open materials on using the Linux desktop<sup>15</sup> with accompanying slides<sup>16</sup> for trainers to use.

Having seen Web 1.0, growing in Web 2.0, Colin likes to describe himself as "**a developer who speaks English**". He is a developer's developer. He is also a seasoned and prolific public speaker, having easily given over 500 talks (and countless online training sessions and webinars).

He's right for this because he is not a trader, has been speaking C since 1989 (making it easy to master other languages), and sees the many gaps in the Web3 developer ecosystem. He's spotted many missing things: Solana Pay integration for Magento/WordPress/Ghost, crowd-funding platforms, etc.

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<sup>9</sup> <https://www.openoffice.org/welcome/credits-ooo33.html#abcd>

<sup>10</sup> <https://www.bytebot.net/openoffice/faq.html>

<sup>11</sup> [https://docs.fedoraproject.org/en-US/fesco/Previous\\_Fedora\\_Engineering\\_Steering\\_Committee\\_Members/#members-of-the-original-fesco-feb-2005---jun-2006](https://docs.fedoraproject.org/en-US/fesco/Previous_Fedora_Engineering_Steering_Committee_Members/#members-of-the-original-fesco-feb-2005---jun-2006)

<sup>12</sup> <https://developers.google.com/open-source/gsoc/2007>

<sup>13</sup> <https://opensource.googleblog.com/2008/05/moments-of-inspiration.html>

<sup>14</sup> <http://training.bytebot.net/>

<sup>15</sup> <http://training.bytebot.net/iosn/linux-userguide-all.pdf>

<sup>16</sup> <http://training.bytebot.net/iosn/Slides-PDF/>

Colin is also "fully doxxed", so isn't afraid to make videos. Having some credibility in the Web 2.0 world might also lend credence to these Web 3.0 endeavours.

## Future Vision

Beyond 2025, we will expand the curriculum to other chains, develop specialised tracks for different industries, create advanced certification programs (so students always have a path for continued learning), build more automated learning paths, and keep on fostering regional developer communities.

Our ultimate vision is to create a self-sustaining ecosystem where:

- Each graduate becomes a mentor
- Developers create tools that empower others (be it open source, services, etc.)
- Innovation compounds through shared knowledge
- AI capabilities continually enhance productivity
- Community contributions accelerate ecosystem growth

Let's get those developers, developers, developers!

**Contact: [colin@bytesizebuilders.com](mailto:colin@bytesizebuilders.com)**

**Telegram: @bytebot | X/WarpCast: @bytebot | GitHub: <https://github.com/byte>**

**WhatsApp: +60122043201 | Tel: +13479033201**

# How We Get There – A Sample Curriculum

## Curriculum Overview

All participants for the weeks long cohorts complete an entrance assessment covering:

- Algorithms and data structures
- Cryptographic fundamentals
- AI prompt engineering basics
- Systems design principles

We have noticed that 42 School follows the *piscine* model, where you do standardised exams (and have seen this leak on GitHub, while this model worked well pre-ChatGPT). We will build on open source principles to ensure that the exam isn't gamed, but also shows aptitude to solving real world issues.

Then the structure is as follows (presuming it is for Solana development):

### **Week 1: Environment & AI Tooling**

- Development environment setup
- AI-assisted development configuration
- Chain-specific CLI and tooling
- Custom LLM prompting for blockchain

### **Week 2: Core Language & Systems**

- Language fundamentals (Rust/Solidity)
- Memory management
- AI pair programming
- Systems programming basics

(note: we expect this Rust course alone costs anywhere between \$2,300-3,500 when taken elsewhere)

### **Week 3: Chain Architecture**

- Consensus mechanisms
- Program/contract architecture
- AI-driven security analysis
- Transaction lifecycle

### **Week 4: Protocol Engineering**

- Design patterns
- Cross-program interactions
- State machine design
- Performance optimisation

### **Week 5: Full Stack Development**

- Frontend integration
- Contract interactions
- AI-assisted testing
- DevOps fundamentals

### **Week 6: Security & Auditing**

- Security best practices
- Formal verification
- Vulnerability detection
- Smart contract simulation

### **Week 7: Advanced Protocols**

- DeFi primitives
- Token standards
- MEV resistance
- Cross-chain development

### **Week 8: Production & Integration**

- Architecture patterns
- Performance optimisation
- Deployment strategies
- Project launch

### **Program Features**

- 6-18 minute micro-learning videos
- AI-enhanced coding tools
- Real-world project work
- Open source contributions
- Community engagement
- Job placement support
- Certification

This streamlined curriculum maintains the core technical depth while being more accessible. Each chain-specific track (Bitcoin, Ethereum, Solana, Base) follows this structure with platform-specific implementations.