# METAVERSITY
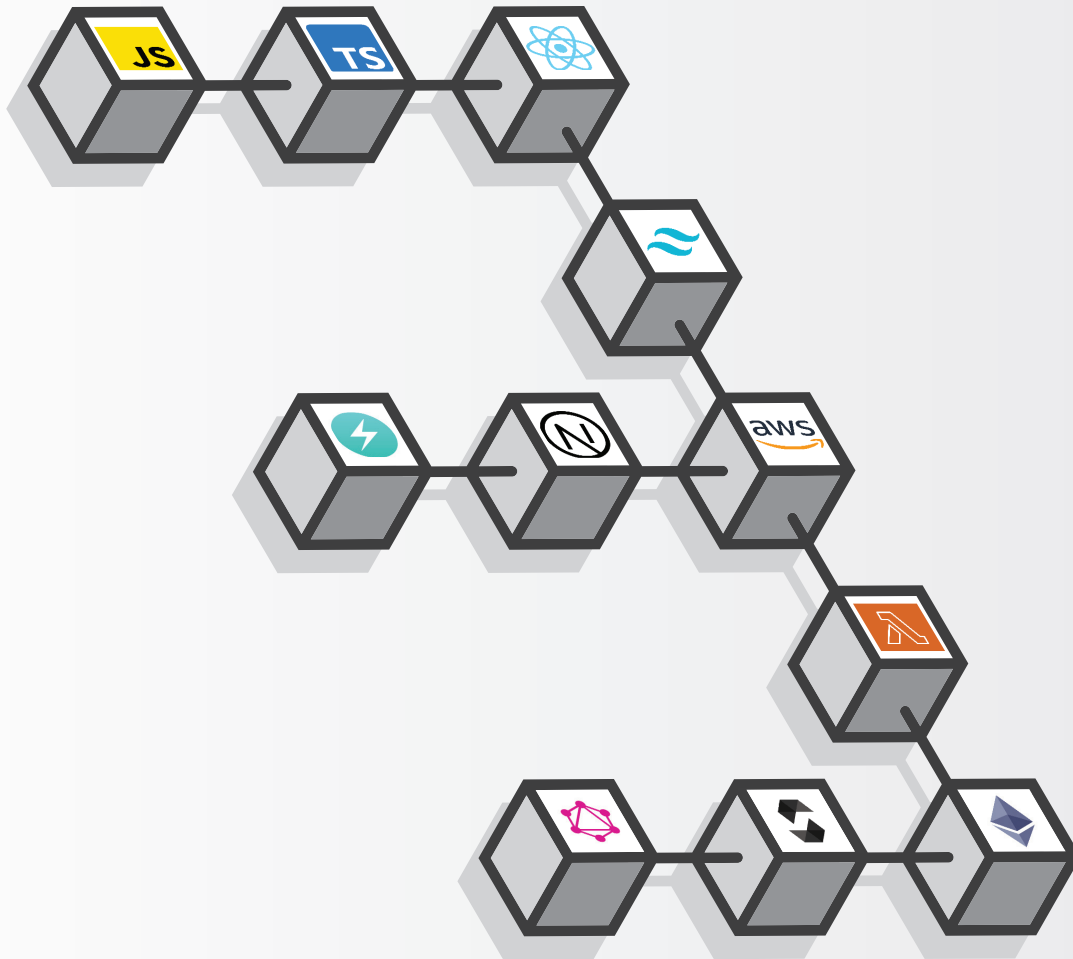
**Metaversity Certified
Web 3.0 Modern Full Stack Developer**

## INTRODUCTION

This program is for anyone who wants to learn how to build and deploy modern web 3.0 applications.

Graduates from the Metaversity Certified Modern Web 3.0 Full Stack Developer Program will be able to develop Decentralized Applications on the Ethereum blockchain with rich & modern user interfaces and integrate them with serverless cloud backends on Amazon Web Services. These decentralized apps are trustless, highly scalable, lightning fast, cost effective, and extremely search engine friendly. Students will be able to build decentralized Web 3.0 full stack applications such as voting, crowdfunding, blind auctions, and multi-signature wallets using smart



## TECHNOLOGIES INCLUDED

| **Version Control** | ▪ Git |
| | ▪ GitHub Workflows |
| **Web Core Technologies** | ▪ HTML |
| | ▪ CSS |
| | ▪ JavaScript |
| **Object Oriented** | ▪ TypeScript |
| **Libraries** | ▪ React.js |
| | ▪ ChakraUI |
| **Frameworks** | ▪ Next.js |
| | ▪ Tailwind CSS |
| **Serverless Backend** | ▪ AWS CDK |
| | ▪ Lambda |
| | ▪ API Gateway |
| | ▪ AppSync / GraphQL |
| | ▪ DynamoDB |
| **Blockchain** | ▪ Solidity |
| | ▪ Ethereum |

## ABOUT METAVERSITY

Metavercity's Center for Applied Technology is the world's premier institution for technology education and advancement featuring the most cutting edge training programs to students anywhere in the world.
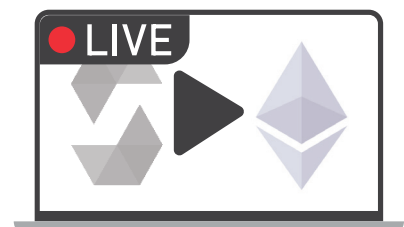
Metaversity is dedicated to distinction in developing and grooming leaders in the Web 3.0 and Metaverse revolution. Our extensive, hands-on training programs are designed to produce graduates of the highest caliber in their fields of study.

## OUR CORE VALUES

- Respect
- Equality
- Integrity
- Dedication to Excellence
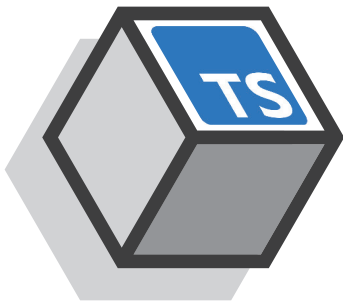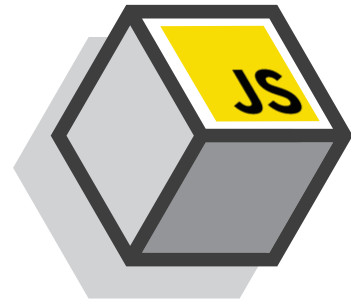- Mentorship
- Accountability
- Stewardship

## FACILITIES PROVIDED

- Live classes
- Expert instructors
- Class recordings
- Placement services
- 24/7 Support

**CONTEXT**

### JavaScript as the Universal Language

JavaScript was developed by Netscape as a client side programming language. At the time, it was not meant for server-side development. Over time, and with the introduction of node.js, JavaScript became both a client and server-side language. Now, JavaScript is supported in the complete application stack. It's used in the development of user interfaces, APIs, server-side functions, and even databases. It's the one universal language you can learn and apply anywhere.
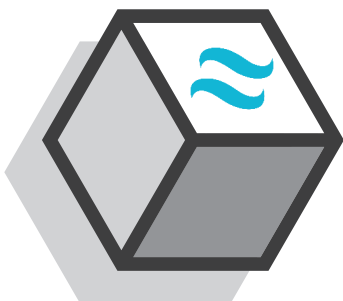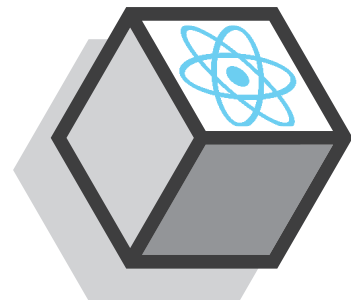
### Class based Object Oriented with TypeScript

The biggest weakness of JavaScript is that it's not a class based object oriented programming language. This is one of the main reasons why it's not commonly used in enterprise applications. TypeScript allows us to do class based object oriented programming and transpile our code into JavaScript.

### React.js for Dynamic, Single Page Web Apps

The Facebook React library allows us to easily create dynamic web applications with reusable components, state management, and react hooks. React is a JavaScript library so it is fully compatible with TypeScript. In addition to web apps, React Native also gives us the ability to create mobile apps.
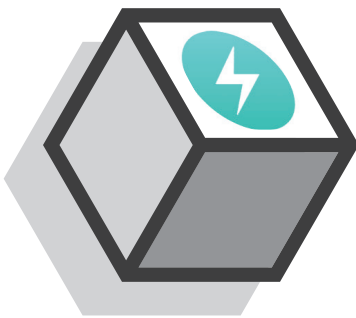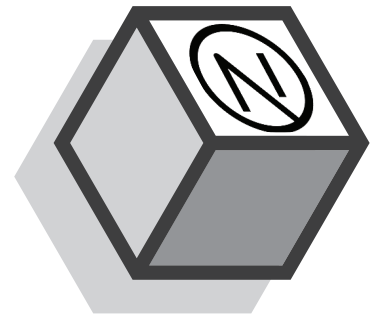
### Tailwind CSS with Utility Classes for Reusable Components

Tailwind is an open source CSS framework that helps developers save time with its fast CSS styling process to style web applications with a built-in design system, inline styling, and ease of responsive styling.

### Next.js for Hybrid Rendering

Next is a React Framework designed to solve many of the challenges that arise when creating React applications. Products that were not able to use React because of its low SEO score are now able to use the Next.js framework to achieve amazing SEO scores. Next.js improves performance of web apps by using static, server, and hybrid rendering techniques. With Next's static rendering capability, developers can build lightning fast static websites that behave as if they're dynamic.

### Chakra UI for Responsive & Accessible Components

Chakra UI is a component library built on top of Tailwind. It helps developers to create highly customizable themes and use them to create reusable components with style props and built-in hooks. The biggest advantage of Chakra UI is the ease of responsive development. It also comes with a built-in dark and light mode to create really cool effects.

### AWS Cloud Development Kit for Infrastructure as Code

Gone are the days when developers would need help in provisioning cloud infrastructure. With CDK, there's no need to manually configure constructs via the web console or write horrible YAML. Now, TypeScript developers can easily write Infrastructure as Code and provision any AWS construct needed for full stack applications.
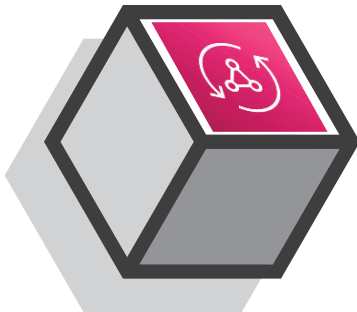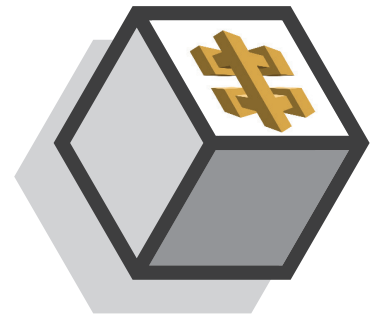
### AWS Lambda Functions for Serverless Functions

With AWS Lambda, write microservices to run code without provisioning and managing servers, automatically respond to load and scale seamlessly, save costs by paying only for the compute time you use, and optimize code execution time with lambda function memory size.

## AWS API Gateway for REST API

AWS API Gateway is a fully managed service that makes it easy for developers to create, publish, maintain, monitor, and secure APIs at any scale. API Gateway handles all the tasks involved in accepting and processing up to hundreds of thousands of concurrent API calls, including traffic management, CORS support, authorization and access control, throttling, monitoring, and API version management. API Gateway has no minimum fees or startup costs. You pay for the API calls you receive and the amount of data transferred out and, with the API Gateway tiered pricing model, you can reduce your cost as your API usage scales.
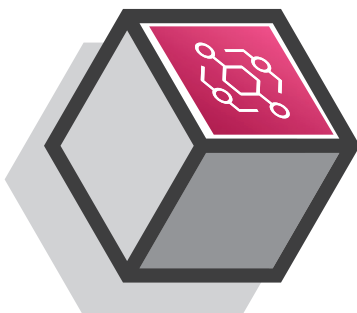
## AWS AppSync for GraphQL API

AWS AppSync provides a robust, scalable serverless GraphQL interface for application developers to combine data from multiple sources, including Amazon DynamoDB, AWS Lambda, and API Gateway. Create engaging real-time experiences by publishing data from any event source to subscribed clients through serverless WebSockets. Because it's serverless, you only pay for requests to your API and any real-time messages delivered to connected clients.

## AWS DynamoDB for NoSQL Database

Amazon DynamoDB is a fully managed, serverless, key-value NoSQL database designed to run high-performance applications at any scale, and consistently fast response time. DynamoDB offers built-in security, continuous backups, automated multi-Region replication, in-memory caching, and data import and export tools.
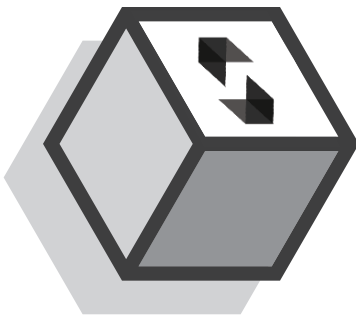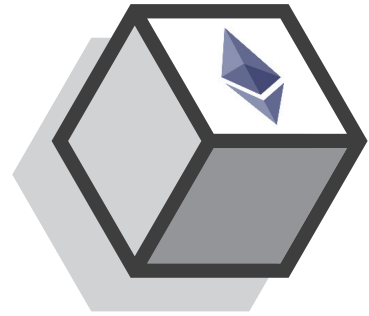
## AWS Event Bridge for Event Driven Development

Build event-driven asynchronous applications using AWS Event Bridge. EventBridge provides a simple and consistent way to ingest, filter, transform, and deliver events so you can build new applications quickly. EventBridge event buses are well suited for many-to-many routing of events between event-driven services. Eventbridge eliminates the need for coordination between service teams with decoupled microservices. Integrate your applications with other SaaS applications by sending custom events to EventBridge. Use EventBridge Scheduler to provide scheduling services in your applications.

**Ethereum for Blockchain**

Ethereum is a decentralized, open-source blockchain with smart contract functionality. It's a blockchain platform that provides digital money, global payments, and applications. Ethereum has a decentralized finance system that's always available and open for all. We can use the Ethereum platform to tokenize digital assets using fungible tokens as well as unique physical assets with non fungible tokens (NFTs).
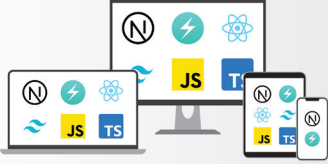
**Solidity for Smart Contracts**

Solidity is high-level object oriented language for writing smart contracts. It is very similar to TypeScript. A smart contract is a protocol that's intended to run automatically when the conditions of the contract are fulfilled. With Solidity you can create smart contracts for uses such as voting, crowdfunding, blind auctions, and multi-signature wallets.

# CHECK OUT OUR OTHER PROGRAMS



## Metaversity Certified
## Modern Frontend Developer

For more Details visit
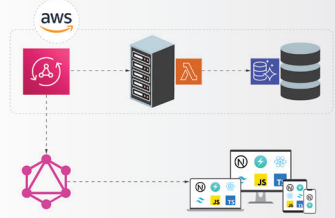www.metaversityusa.com/frontend

This program is for anyone that wants to learn how to build dynamic web applications that have rich user interfaces, lightning fast loading times, and search engine optimization.

## Metaversity Certified
## Modern Full Stack Developer

For more Details visit
www.metaversityusa.com/full_stack

The demand for modern full stack developers is booming. In this program, you'll learn how to build lightning fast dynamic web applications with server-less APIs and databases.



# M E T A V E R S I T Y
www.metaversityusa.com