

Self-Paced Bootcamp

Java, MERN, C#, Python

Self-Guided
course format

Mentorship
check-ins provided

2-4 Month
course access

Over 4,500 alumni, hired by tech companies worldwide

Google

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Python

Full Stack Development

MySQL

Intro to MySQL

- Database Design & Relationships
- Entity Relationship Diagrams (ERD)
- Database Normalization
- MySQL Workbench & Querying
- Conventions & Common Data Types
- How to Use ERDs
- Using a Database with Your UI
- Recreating ERDs*

Python

Intro to Python

- Variables, Data Types & Best Practices
- Using Strings & Built-in String Functions
- List Creation & Manipulation
- Using Tuples & Built-in Tuple Functions
- How to Use Dictionaries in Python
- Conditionals, Operators, & Nested Loops
- Constructing Functions in Python

Python OOP

Intro to Object Oriented Programming

- Creating Objects & Classes
- Adding Properties/Attributes to Classes
- Constructing & Adding Methods to Classes
- Chaining Methods & Using Magic Methods
- How to Use Modules & Packages in Python
- Creating Multiple Objects
- Updating Methods with 'Super'

Python Test Driven Development (TDD)

- Unit Testing in Python & Outcomes
- How to Use Assertions Using
- TDD Methods: setUp & tearDown

Advanced Python

- How to Use Multiple Arguments
- Ternary Operators in Python
- Using Lambda
- Overriding Inheritance & Polymorphism
- Using Composition Over Inheritance

Flask

Intro to Flask

- Routing in Flask Applications
- Building & Using Forms
- Rendering Templates & Views
- Delivering Static Content
- The Different HTTP Methods
- Implementing Cookies & Sessions
- Hidden Inputs & Form Validation

Flask w/ SQL

- Import, Export, & Connect Your Database
- Connecting & Running Python Across Files
- Database Communication & Validation
- Encryption & Data Security Basics

Pylot MVC

Intro to Pylot Model View Controller (MVC)

- Views, Session Classes & Session Data
- How to Use Models with Controllers
- Data Validation with Pylot
- Using Bcrypt with Pylot MVC
- How to Use Multiple Controllers & Models

Deployment

- Amazon Web Services (EC2)
- Linux
- PostgreSQL

*Optional topics



Java

Full Stack Development

Java Fundamentals

Intro to Java

- Java Development Kit Installation
- Executing Java Programs
- Variables, Data Types, & Type Casting
- Control Structures & Exceptions

Java OOP

Intro to Object Oriented Programming

- Creating Objects & Classes
- Methods, Member Variables & Constructors
- Overloading & *this*
- Inheritance & Packages

Advanced Java OOP

- Use of Static
- Interfaces & Abstract Classes
- Annotations
- Java Beans

Data Structures*

- Doubly Linked Lists
- Tries

Java Web Development

Java on the Web

- Servlets & Web Containers
- Query Parameters
- Java Servlet Pages
- Light MVC Patterns
- Session & POST Patterns

Java Spring

Spring Fundamentals

- Spring Overview
- Spring Tool Suite
- Intro to Spring Boot
- Spring MVC Apps

Spring Data I & II

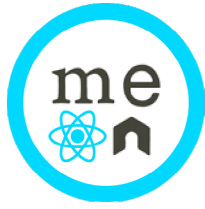
- MySQL Connections
- Repositories & Spring Data - JPA
- Persistent Model Annotations
- Relationships
- Advanced Queries

Spring Security

- Spring Security Overview
- Authentication & Authorization
- Servlet API Integration
- Spring MVC Integration

Deployment

- Amazon Web Services (EC2)
- Linux
- PostgreSQL



MERN

Full Stack Development

JavaScript

Fundamentals

- Declaring & Referencing Variables
- Variable Hoisting in JavaScript
- Conditionals, Operators, & Nested Loops
- Using Arrays & Loops in JavaScript
- Objects, Functions, & Function Scoping
- Variable Hoisting with Scoping
- Return Statements in JavaScript
- Function Hoisting

JavaScript OOP

- How to Use Object Constructors
- Common Constructors: 'This' & 'New'
- Private Methods & Variables
- Creating Prototype Objects in JavaScript
- Best Practices for JavaScript OOP

Advanced JavaScript

- How to Use Callbacks
- Delegating Functionality & Event Handling

Node.JS

Intro to Node

- How to Use Package Managers (NPM/Bower)
- File System Module & HTTP
- Making a Full Web Server
- How to Work with Node Modules
- Common & Useful Node Modules

Modularization

- Using Require & Module.exports
- How to Modularize Existing Projects

Express.JS

- Render Templates With Express View Engines
- HTTP Methods: Forms, Data Transfers, & Routing

Socket.io

- Applications with Real-time Communication

MongoDB

MongoDB & Mongoose

- MongoDB Overview, CRUD Ops
- Intro to Mongoose
- Dependencies in Mongoose
- Mongoose Communication with MongoDB
- Mongoose Methods
- Data Validation with Mongoose
- Create Associations Between Mongo Objects
- RESTful Routing with Mongoose & Express

React

- Create React App
- Class Based Components
- Props, Children, Synthetic Events
- State, Lifecycle Methods
- Functional Components
- useState, useEffect, useReducer
- context API

Deployment

- Amazon Web Services (EC2)
- Linux
- Production Environments
- Heroku



C# .NET

Full Stack Development

C# Fundamentals

Intro to C#

- .NET Core Console Applications
- Variables, Types, Type Casting, & Functions
- Control Structures
- Debugging .NET Core Applications (VS Code)

C# OOP

Intro to Object Oriented Programming

- Classes & Objects
- Access Modifiers
- Inheritance & Polymorphism
- Encapsulation with Properties

Advanced C# OOP

- Interfaces
- Abstract Classes
- Generics

Data Structures

- Singly Linked Lists
- Doubly Linked Lists
- Tries

ASP.NET Core

- Dependency Injection with ASP Services
- MVC Architecture
- Razor View Engine
- View Modeling
- Extension Methods
- Custom User Authentication/Authorization

Object Relational Mapping (ORM)

Working with ORMs

- LINQ
- Dapper
- Entity Framework Core

Identity Framework Core

- User Authentication/Authorization
- Identity Roles
- Third Party OAuth

Deployment

- Amazon Web Services (EC2)
- Linux
- Production Environments
- Hosting with Nginx/Supervisor