



**upGrad** &



International  
Institute of Information  
Technology Bangalore

ज्ञानमुत्तमम्

PG Diploma in  
**Software Development**  
**Specialisation in Full-Stack**  
**Development**

11 Months | Online | 3 Guaranteed Interviews

upGrad is an online education platform that enables individuals to develop their professional potential in the most engaging learning environment. Online education is a fundamental disruption to the traditional model and will be having a far-reaching impact. At upGrad, we work towards transforming this online education wave into a tsunami! We take a full-stack approach, by leveraging content, technology, marketing and services, to offer quality education at scale in partnership with corporates and academia. This translates into rigorous industry relevant programs for individuals looking for a professional upgrade.

In last 10 years, digital technology has had a profound impact on billions of lives and thousands of businesses in India and abroad. The pace of growth is only expected to increase further, as the \$150 billion Indian IT industry is set to double its revenue in the next 10 years. This growth will be driven by new age digital products and services, which will create millions of new developer jobs. To address this industry need, we have designed a joint Post-Graduate Diploma in Software Development, with IIIT-B, with specializations in Full Stack Development & Blockchain Development.

The program will prepare our learners to excel in this rapidly evolving technology landscape, by strengthening their core concepts in computer science and providing exposure to full stack development and blockchain development. Post this program, you will develop into a well-rounded Full-Stack or Blockchain developer, ready to excel in your career.

## Ronnie Screwvala

Co-founder & Chairman  
upGrad



As an independent institution and a deemed university, IIIT-B collaborates with the IT industry, leading academic institutions abroad, eminent scientists and industry leaders to offer students the best possible education. Our outstanding faculty, curriculum and pedagogy ensures that our graduate programs are ranked among the best in the country. Our students have been well received by industry, and have been placed with some of the leading companies in the IT industry.

We have partnered with upGrad to offer a rigorous, Post-Grauate Diploma in Software Development with specializations in Full Stack Development & Blockchain Development - a unique and exciting combination of core computer science concepts, full stack/blockchain development principles and industry-led hands-on application development experience. In this program, IIIT-B's experienced faculty will teach the core concepts of computer science along with important software development principles. Additionally, students will get opportunities to work on industry-relevant projects and interact with industry experts through UpGrad's strong industry network. The program has been designed keeping in mind that the future belongs to the full stack developers and blockchain developers who can think and implement end-to-end.

## **Prof. S. Sadagopan**

Director  
IIIT Bangalore



# WHY SOFTWARE DEVELOPMENT?

**IT & TECH Industry IN INDIA**  
to be worth US\$  
**350 BN**  
in 2025

A software developer sitting in his hostel room created a software that is used by more than a billion people today. Another developer created a website which today sells items worth more than GDP of few countries! These present day internet giants known as Facebook and Amazon, started off as the work of a single software developer!

The IT and Tech industry has had an exponential growth in the last 25 years to grow to be a \$150 billion industry today, accounting for more than 7% in the country's GDP. A large chunk of that growth has happened in the last 10 years with the industry size increasing three times because of the massive IT services sector. Estimates from the industry and the government have slated the IT sector to grow to \$350 billion by 2025.

This growth will be driven by the push towards digital products, which would need skilled developers leading the charge. This is reflected in the current hiring trends, as companies prefer having full-stack developers, who can take ownership of projects and create products end-to-end. As per the recent National Software policy released by the government, the Indian software market will create employment opportunity for 3.5 million professionals by 2025. This would need up-skilling by re-addressing the basics of programming, formal training and hands-on experience on technologies to bring about a shift in mindset of the software engineers to a "Digital" one. This "Digital revolution" promises to be a great journey for software developers in the coming years with accelerated career growth and stable long term prospects. Are you ready to join in?

# WHY SOFTWARE DEVELOPMENT WITH UPGRAD & IIIT-B?



## PG DIPLOMA FROM IIIT-B

Earn a reputed PG Diploma without leaving your job



## LEARN FROM THE BEST

Learn software development principles from leading IIIT-B faculty & applications from industry leaders



## HANDS ON EXPERIENCE

Build a portfolio of industry-relevant projects to showcase your programming skills to potential recruiters



## ON-THE-GO LEARNING

Lessons condensed into easy-to-consume 30 mins sessions which you can access anywhere - anytime



## STUDENT SUPPORT

Round the clock academic & non-academic support along with unparalleled peer-to-peer learning



## INTERVIEW GUARANTEE

3 guaranteed interviews or ₹15,000/- money back\*

# **WHO IS THIS PROGRAM FOR?**

Whether you are looking to transition to a full-stack developer role from a non-programming background or an existing software engineer aspiring to grow your skill-set and become a full-stack developer, this program has been specifically designed to cater to your needs

## **JUNIOR IT & TECHNOLOGY PROFESSIONALS**

Learn the fundamentals of programming from world-class faculty, get hands-on experience in latest technologies and access to career services to develop your digital skills & boost your career as a full-stack developer

## **EXPERIENCED IT & TECHNOLOGY PROFESSIONALS**

The program helps you work across tech stacks to build full-stack expertise. Learn with industry experts, build your project portfolio and receive personalised CV & interview prep to help you get your dream job

## **FRESH GRADUATES AND CURRENT STUDENTS**

Post the program you can enter the industry as a software expert proficient in digital skills helping you get better career growth opportunities. The prestigious IIIT-B PG Certification will boost your profile and set up a great career path ahead

## **DIGITAL TECHNOLOGY ENTHUSIASTS**

Kickstart your career in tech industry with a reputed PG certification from IIIT-B. The team of IIIT-B's leading faculty, UpGrad's panel of industry experts and Career services team will help you equip with the requisite skills needed to succeed in the field

# EXPERIENCED FACULTY



**DR. T K SRIKANTH**  
Professor - Computing  
**IIIT Bangalore**



**PROF. K V DINESHA**  
Professor  
**IIIT Bangalore**



**PROF. TRICHA ANJALI**  
Associate Professor  
**IIIT Bangalore**



**PROF. MURALIDHARA**  
Associate Professor  
**IIIT Bangalore**



**PROF. MEENAKSHI**  
Associate Professor  
**IIIT Bangalore**



**PROF. SUJIT**  
Assistant Professor  
**IIIT Bangalore**



**PROF. THANGARAJU**  
Professor  
**IIIT Bangalore**



**PROF. R. CHANDRASHEKHAR**  
Dean (Academics)  
**IIIT Bangalore**



**PROF. JAYAPRAKASH  
LALCHANDANI**  
Assistant Professor  
**IIIT Bangalore**

# INDUSTRY EXPERTS



**SHAKUN GUPTA**  
Founder and CTO  
**Slassy**



**VARUN SEHGAL**  
Director | Program Management  
**Zomato**



**CHENG-HAN LEE**  
Program Manager  
**ex-Microsoft**



**ANKIT MAHESHWARI**  
Tech Lead, Impact Running  
**ex-Housing**



**ABHIJEET SINGH**  
Sr. Engineering Manager  
**Microsoft**



**ASHUTOSH SHINDE**  
Engineering Manager  
**Inmobi**



**VISHWANATH PATTANSHETTI**  
Sr. System Analyst  
**ex-IBM**



**ROHAN KAPADIA**  
Software Developer  
**Swiggy and ex-Amazon**



**NOBAL MOHAN**  
Frontend Consultant  
**ex-Sportskeeda**



**SHILPA BHAT**  
Software Consultant  
**Vision Empower Trust**

# PROGRAM CURRICULUM

## PRE-COURSE

(Duration : 3 weeks)

We have built this pre-course for people who don't have prior programming/ coding experience. In 3 weeks, you will be given a strong foundation in order to prepare for the intensive learning experience of the program. We strongly encourage learners to take this up if they don't have a background in computer science

### Topics Covered:

- Computational Thinking
- Programming foundations in Java (loops, functions and variables)

## FOUNDATIONS OF FULL-STACK DEVELOPMENT

(Duration : 12 weeks)

Professional full-stack developers use these practical concepts every-day to write high-quality code. Mastery of these concepts will help you crack job-interviews at tech companies and make you stand-out among other developers. Not only that, you will stay forever in demand, as you can easily pick up new languages, libraries and frameworks.

### Topics Covered:

- Object Oriented Programming (OOP) - Classes, Objects, Inheritance, Polymorphism, Abstraction and Encapsulation
- Algorithms - Recursion, Big-O, Divide and Conquer and Dynamic Programming
- Data Structures - Arrays, Linked Lists, Stacks & Queues, Trees & Binary Search Trees,
- Heaps, Hash Tables, Graphs

### Tools & Languages Used:



# BACKEND DEVELOPMENT AND AGILE ENGINEERING

(Duration - 4 weeks)

Build complex server-side applications, and write advanced backend logic. Write your own SQL queries, learn how to use the popular PostgreSQL database, and master how to integrate databases into your backend applications

Go beyond programming to master software engineering skills like refactoring, test-driven development to be an all-round developer. Learn Agile Methodology - the cornerstone for software development in the digital age.

## Topics Covered:

- MVC Architecture using Spring
- Agile Methodology
- Version control with Git
- Databases and ORM using PostgreSQL and Hibernate
- Refactoring and Test-Driven Development

## Tools & Languages Used:



# DISTRIBUTED AND SCALABLE BACKEND WITH APIS

(Duration - 5 weeks)

Build high-performing, scalable applications and master the use of APIs to take your application to millions of users. You will continue to learn best practices for working in high-performance software engineering teams.

## Topics Covered:

- Distributed System Design and Architecture
- Design Patterns
- Code reviews and bug tracking best practices
- RESTful API using Spring Framework
- Canonical Software Design Patterns

## Tools & Languages Used:



# FRONTEND DEVELOPMENT

(Duration - 6 weeks)

User expectations have sky-rocketed in recent years, and software developers are increasingly expected to create sophisticated front-end user interfaces for their software applications. Learn how to build rich, interactive front-end for your software applications that consumers want to use.

Additionally, learn how to gather user-requirements, build prototypes, architect software, plan and manage end-to-end software development projects.

## Topics Covered:

- Use cases & scenarios
- Frontend development with HTML5, CSS3, and Javascript
- Software Architecture
- Software Requirement and Project Planning

## Tools & Languages Used:



# ADVANCED FRONTEND DEVELOPMENT AND DEVOPS

(Duration - 5 weeks)

Take your frontend development skills to the next level by learning latest frontend tools and frameworks - Javascript ES6, React JS, Sass, Webpack and Babel

Master DevOps principles to automate your software deployment to the Cloud

## Topics Covered:

- Advanced Javascript
- Javascript ES6
- Modern Javascript tools such as NPM, Webpack, and Babel
- DevOps & Cloud Deployment
- Core ReactJS concepts such as jsx, props, state, and components

## Tools & Languages Used:



## CAPSTONE PROJECT

*(Duration - 6 weeks)*

After months of lectures and hands-on practice on latest tools, it is time to create a fully functional software product on your own!

You will work on a project mentored by industry experts through 1-on-1 discussions and feedback sessions, to create a ready-to-use software product with a robust backend and an engaging user interface. The projects have been decided to ensure that you get to apply all the lessons you have covered during the 11 month program



# PROGRAM DETAILS

## PROGRAM DURATION

11 Months

## PROGRAM FEES

₹ 2,25,000/- (inclusive of taxes)

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## ELIGIBILITY

Having a minimum 3 year UG degree (e.g. BE, BTECH, BCA, BCOM, BA)

*Final year college students enrolled in degree types mentioned above, are also eligible to apply. However, in order to successfully graduate from the program and receive a post-graduate certification, they will have to provide proof of UG graduation (e.g. provisional degree)*

Minimum 50% marks or 5/10 GPA (on a scale of 10) or 2/4 GPA (on a scale of 4) in undergraduate degree examination.

*In case a student has lower than 50% marks in UG degree but has higher than 50% marks in a PG qualification (e.g. Postgraduate Diploma, Master's Degree etc.), he/she will also be eligible to apply*

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## ADMISSIONS PROCEDURE

Post application, we have an admission process (customised to your profile) to assess your eligibility

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## FOR FURTHER DETAILS, CONTACT US AT:

[software-dev@upgrad.com](mailto:software-dev@upgrad.com) / [admissions-pgpsd@iiitb.ac.in](mailto:admissions-pgpsd@iiitb.ac.in)

**APPLY NOW**