



Transforming Aspirations into Achievement

# VERY LARGE SCALE INTEGRATION

Master **VLSI** with Expert Guidance!

**SELF-PACED | MENTOR LED | PROFESSIONAL**





A Brief Story About The Company



# ABOUT US

Our team is dedicated to empowering students with the skills needed to thrive in today's ever-evolving job market. We believe that staying ahead requires continuous skill development to meet industry demands.

At innoKNOWVEX, we bridge the gap between current capabilities and the expertise sought by leading organizations. Our platform offers industry-specific training in a professional setting, equipping students with the knowledge and practical skills essential for securing employment in their chosen fields.



## About the Program

InnoKnowvex Edu Tech's 3-month program includes two months of industrial training with experts through live sessions & recorded materials.

The final month involves an individual project and a major project with affiliated companies, offering industry exposure and MNC work experience. This program prepares interns for successful careers in the field.

## Modes of Training

### ★ SELF PACED

- Recorded Sessions with doubt-clearing opportunities
- Lifetime access to study material
- Training Certification+Internship Opportunity

### ★ MENTOR LED

- Live interactive sessions with doubt clearing
- Lifetime access to recordings
- Training Certification+Internship Opportunity

### ★ PROFESSIONAL

- Live interactive sessions with doubt clearing
- Lifetime access to recordings
- Training Certification+Internship Opportunity+placement assistance



## FIRST TWO MONTHS

- Comprehensive industrial training from experts
- Live interactive sessions
- Lifetime access to session recordings
- Hands-on practice
- Mini-projects and exercises
- Real time engagement
- Immediate feedback
- Supportive learning environment
- Mentorship and peer collaboration
- Solid foundation
- Real-world projects in the internship phase

## THIRD MONTH

### Two key projects:-

1. Minor project focused on implementing and evaluating their skills independently.
2. Major collaborative project, providing industry exposure and experience in a multinational corporation environment.

**\*Interns work on real-world challenges under the guidance of experienced professionals, gaining valuable insights into industry practices while refining their technical skills. This hands-on experience prepares them for successful careers, giving them a competitive edge in the job market.**



# Explore the **CAREER PATHS**

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**VLSI  
Researcher**

**EDA Tool  
Developer**

**Embedded  
Engineer**

**FPGA  
Engineer**

**ASIC  
Engineer**

**DFT  
Engineer**

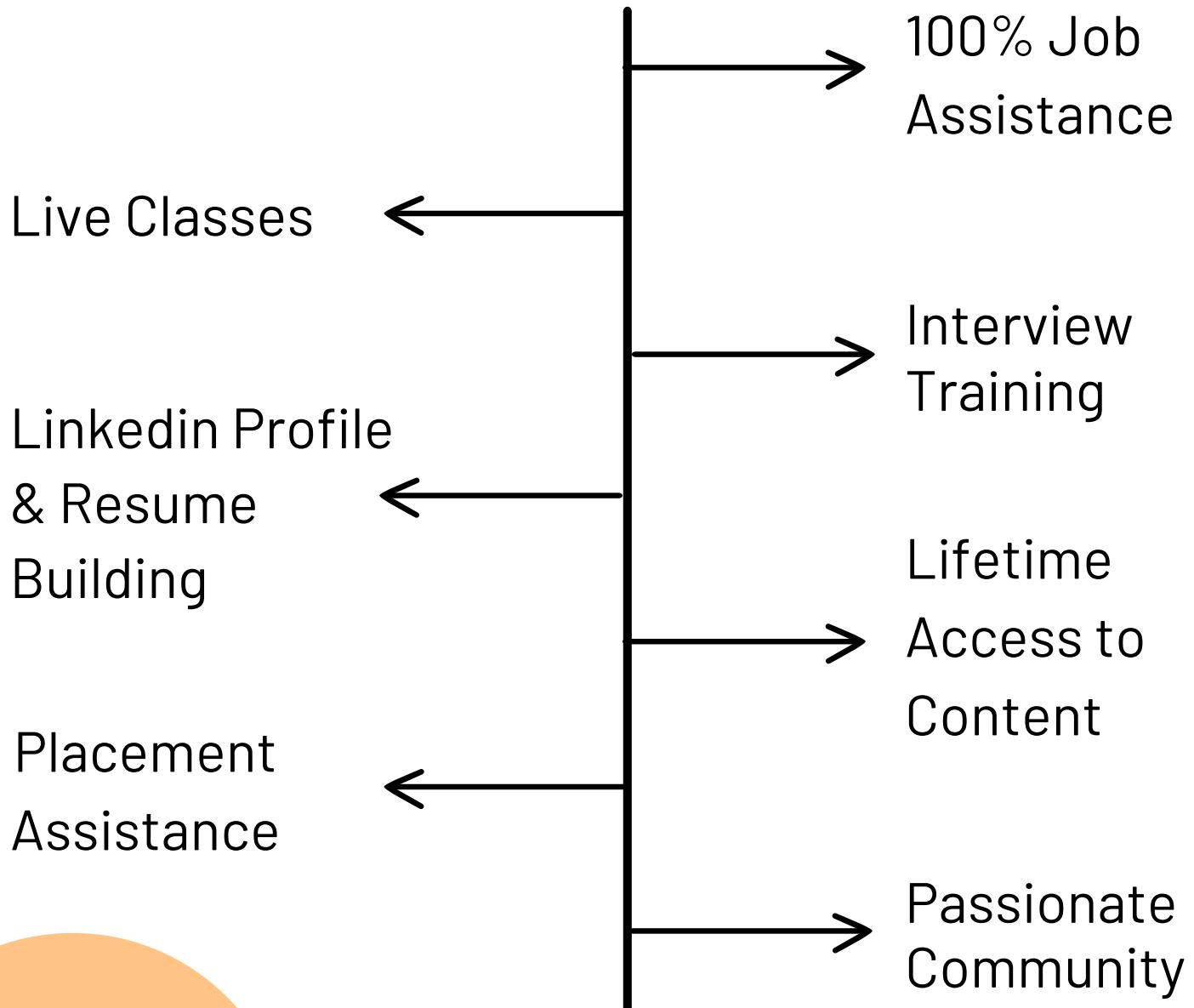
**Verification  
Engineer**

**Physical  
Design  
Engineer**

**RTL Design  
Engineer**



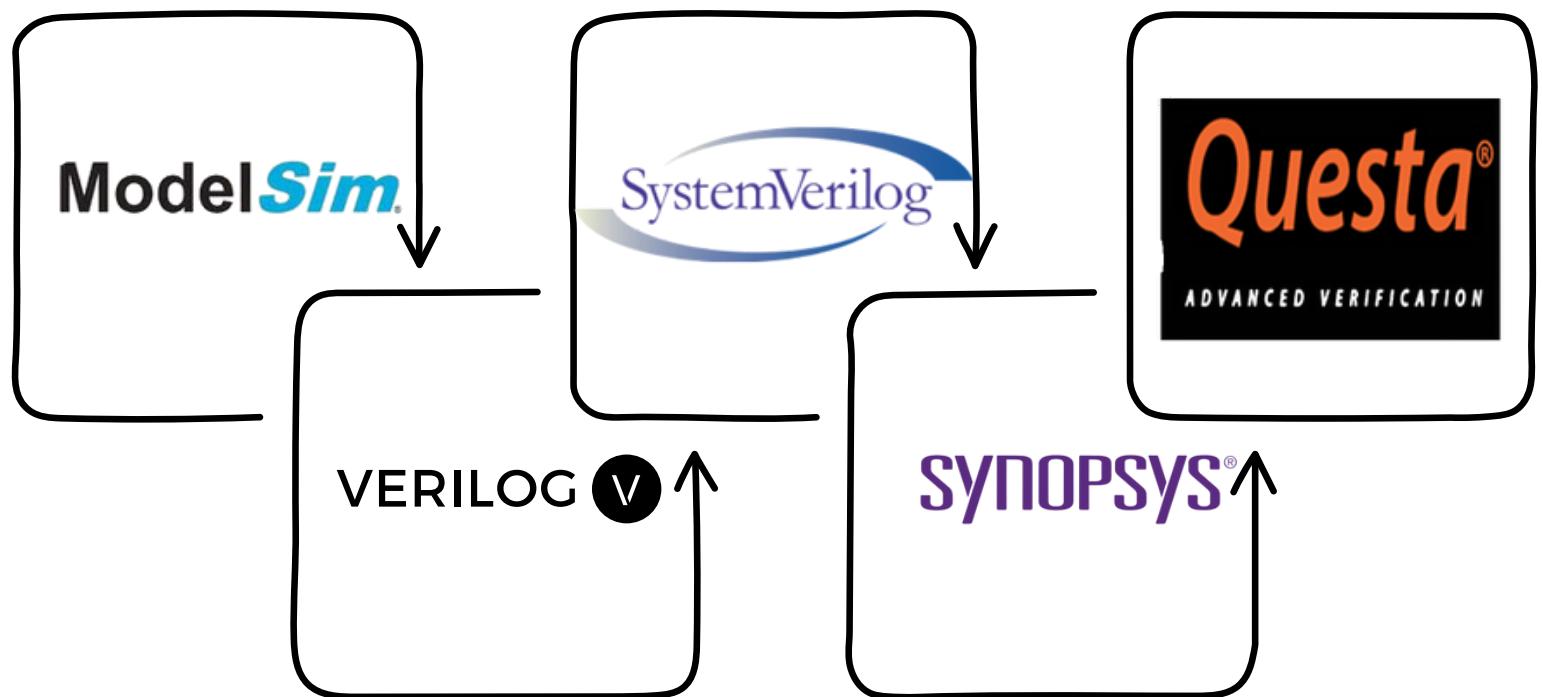
# WHY US?





# TECHNOLOGIES

## You will learn





# KEY HIGHLIGHTS OF PROGRAM

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Introduction  
to VLSI

Digital Electronics  
Fundamentals

CMOS Technology  
Basics

Verilog/VHDL  
Basics

Sequential  
Logic in HDL

RTL Design and  
Verification

Synthesis  
Concepts

FPGA Architecture  
and Design

ASIC Design  
Flow

Major Project

Career Prep

Certificate +  
Prep

# Course Curriculum



## Week 1- Introduction to VLSI

01

- What is VLSI? History and significance**
- VLSI applications in industry**
- VLSI design flow overview**
- Tools used in VLSI design (EDA tools)**



## Week 2- Digital Electronics Fundamentals

02

- Number systems and Boolean algebra**
- Logic gates and truth tables**
- Combinational vs. Sequential logic**
- Basic circuits: adders, multiplexers, flip-flops**

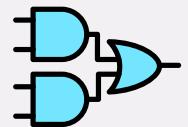
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## Week 3 - CMOS Technology Basics

03

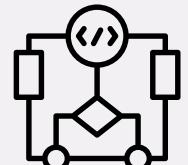
- Introduction to MOSFETs (NMOS & PMOS)
- CMOS inverter characteristics
- CMOS logic gate design (NAND, NOR, etc.)
- Power dissipation and delay



## Week 4 - Verilog/VHDL Basics

04

- HDL overview and applications
- Verilog/VHDL syntax and data types
- Modules, ports, and assignments
- Writing simple combinational logic



## ★ RESUME BUILDING WORKSHOP



## Week 5 - Sequential Logic in Verilog/VHDL

05

- Flip-flops and latches in HDL
- Finite State Machines (FSMs)
- Writing and simulating counters, registers
- Testbenches for sequential designs

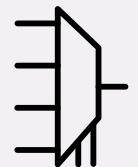




## Week 6 - RTL Design and Verification

06

- Register Transfer Level (RTL) modeling**
- Behavioral vs Structural design**
- Simulation using tools (e.g., ModelSim)**
- Debugging and waveform analysis**



## Week 7 - Synthesis Concepts

07

- From RTL to gates: Logic synthesis**
- Setup and hold times, critical path**
- Timing analysis basics**
- Area vs speed vs power trade-offs**

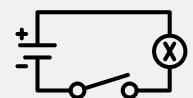




## Week 8 - FPGA Architecture and Design

08

- Introduction to FPGA structure
- Differences between ASIC and FPGA



## SOFT SKILL DEVELOPMENT WORKSHOP



## Week 9 - FPGA Architecture and Design

09

- Toolchain overview (Vivado, Quartus)
- Simple design implementation on FPGA





## Week 10 - ASIC Flow Introduction

10

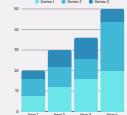
- ASIC design flow overview**
- Floorplanning, placement, routing (basics)**



## Week 11 - ASIC Flow Introduction

11

- Standard cell libraries**
- Fabrication process overview**



## HOW TO CRACK TECH INTERVIEWS



## Week 12 - Major Project and Review

12

- Major project (e.g., 4-bit ALU, traffic controller)**
- Design, simulate, and synthesize**
- Project report preparation**
- Feedback and internship completion**





# CERTIFICATIONS





*Pricing*

# PLAN

**Live Sessions>**

**Get real-time Assistance**

**₹2,500**

**Self Paced>**

**Learn at your own pace**

**₹2,500**



# OUR COLLABORATIONS

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Capgemini

IBM

wipro

accenture

meesho

SWIGGY

Razorpay

PhonePe

boAt



# COMPANY DETAILS

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