VLSI

BROCHURE

About Pavision Innovations

At Pavision Innovations, we are more than just a training platform – we are a community of innovators in education. Our VLSI program equips you with the knowledge and skills to protect critical systems and networks in today's ever-evolving cyber landscape.

Course Overview

Dive deep into the world of Very Large Scale Integration (VLSI) with our expertly designed course. This program is crafted to equip you with the knowledge and hands-on experience required to design, implement, and optimize integrated circuits at a nano-scale level. Whether you're an aspiring semiconductor engineer or looking to upgrade your skills,

What is VLSI?

VLSI (Very Large Scale Integration) is a process in electronics that involves integrating thousands to millions of transistors onto a single chip or integrated circuit (IC). VLSI technology is the backbone of modern digital electronics and is used in designing microprocessors, memory chips, and other complex circuits.

Course Outline

Module 1: Introduction to VLSI

- Evolution of IC Technology
- Overview of MOS Transistors
- VLSI Design Flow

Module 2: Digital Design with VHDL/Verilog

- RTL Design Methodologies
- Behavioral, Structural, and Gate-level Modeling

Module 3: CMOS Technology and Circuit Design

- MOS Transistor Theory
- Design and Analysis of Combinational & Sequential Circuits

Module 4: Physical Design and Timing Analysis

- Placement and Routing Techniques
- Design Rule Checking (DRC) and Layout vs. Schematic (LVS)

Module 5: Analog & Mixed-Signal VLSI Design

- Design of Data Converters
- Signal Integrity and Power Analysis

Module 6: ASIC & FPGA Design

- Introduction to ASIC Flow and FPGA Architecture
- Design and Implementation on FPGA

Module 7: Design Verification

- Functional and Timing Verification
- Test Bench Development and Simulation

Sample Projects

These are sample projects only. Unique capstone projects will be discussed in the live class

- DESIGN OF 32-BIT RISC PROCESSOR USING VHDL/VERILOG
- LOW POWER VLSI DESIGN TECHNIQUES FOR CMOS CIRCUITS
- FPGA-BASED DIGITAL SIGNAL PROCESSING (DSP) SYSTEM DESIGN
- DESIGN AND IMPLEMENTATION OF ARITHMETIC LOGIC UNIT (ALU)
- DESIGN OF HIGH-SPEED MULTIPLIER USING VEDIC MATHEMATICS
- ASIC DESIGN AND VERIFICATION OF A TRAFFIC LIGHT CONTROLLER

Career Opportunities

Upon completing the VLSI Certification Program, students will be equipped for roles such as:

- VLSI Design Engineer
- ASIC Design Engineer
- FPGA Design Engineer
- Physical Design Engineer
- Verification Engineer
- Layout Design Engineer
- Analog/Mixed-Signal Design Engineer

Certificates

PAVISION INNOVATIONS

CERTIFICATE

OF COURSE COMPLETION

THIS CERTIFICATE IS PROUDLY PRESENTED TO

K.H.N.VCAMSJ

has successfully completed Artificial Intelligence course at Pavision Innovations in the month of 3 JUNE 2025 to 3 AUGUST 2025 and has proven his/her competency with utmost dedication and promise

CERTIFICATE ID: 6565-5801-2130

Academic Head

Mentor

SAMPLE

PAVISION INNOVATIONS

MSME

Ministry of MSME, Govt. of India

INTERNSHIP

CERTIFICATE

THIS CERTIFICATE IS PRESENTED TO :

K.H.N.VCAMSJ

has successfully completed Aritificial Intelengence program at Pavision Innovations in the month of 3 September 2025 to 3 November 2025

CERTIFICATE ID: 6565-5801-2130

Academic Head

Mentor

SAMPLE

Assured Interviews

As part of our placement support, we provide assured interview opportunities with leading companies in your field. Our dedicated placement team works tirelessly to connect you with the right employers based on your skills and interests.

The Course and Curriculum is designed by Mentors from

Get Started Today!

Contact Us:
Ready to take your career to the next level?

Contact us to learn more about our courses, flexible payment plans, and how we can help you achieve your career goals.

Phone: 6362243512
Email: help@pavision.in

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