17.06.2024 to 21.06.2024

Workshop on "Artificial Intelligence and its Applications in VLSI Design and Technology"

(UNDER THE ANCHOR INSTITUTE PROGRAM)

Anchor Institute Programme Office
DHIRUBHAI AMBANI INSTITUTE OF INFORMATION AND
COMMUNICATION TECHNOLOGY, GANDHINAGAR,GUJARAT

- ❖ **Supported by:** The Centre for Entrepreneurship Development ([CED](#))-A Government of Gujarat Organization funded Anchor Institute DA-IICT.

- ❖ **Organized by:** Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar, Gujarat, India (DA-IICT).

Tentative Start Date	17.06.2024 to 21.06.2024
Venue	DA-IICT, Gandhinagar
Program Schedule	Click here
Course Duration	The duration of the course will be 40 hours, consisting of 20 hours of theory sessions and 20 hours of laboratory sessions.
Target Audience	Professionals Design, VLSI, AI/ML, Faculties, Ph.D. Scholar, PG and Final year UG Students
Course Fee (Pay Online)	Participants from Gujarat state are charged a fully refundable upfront course fee of 5,000 INR. Please note that this fee is non-refundable for candidates from other states.
Accommodation	Complimentary accommodation, breakfast, lunch, and snacks will be provided throughout the workshop. Please note that accommodation is currently available only for male participants.
Refund Policy	Maintain a 75% minimum attendance to be eligible for the refund.
Certificate	A participation certificate will be conferred to individuals who maintain an attendance record of at least 75%.

- ❖ **Pay online to the below bank account:**

Name of Account Holder	M/S.DHIRUBHAI AMBANI INST OF INFOR & COMM TECHNOLOGY ANCHOR IN
Bank Name	ICICI Bank Ltd.
Account Number	016501021384
IFSC Code	ICIC0000165

- ❖ **Registration on the following link after the payment:**

To enroll, please complete the registration form by clicking here. Once you open the registration form, you will find further instructions and details.

The last day of registration is **06th June. 2024**

- ❖ For more details, please visit https://www.daiict.ac.in/courses-through-aip-cep

1. **Course Objective**

The course aims to introduce the basic concepts of Artificial Intelligence and Machine Learning followed by its applications in the area of VLSI Design and Technology. The scope of AI/ML at various levels of abstraction will be covered in detail.

The focus of the present course is to start with the basic understanding of AI and ML. The modeling, experimentation and analysis of the AI/ML based algorithms will be executed. Thereafter, the state-of-the-art research and development in the VLSI domain will be covered. The design challenges, complexities in nanometer designs, various non-ideal effects in the device, interconnects, packaging, testing and electronic design automation (EDA) tools will be

discussed. The incorporation of AI/ML based approaches for solving VLSI design challenges will be studied and implemented. The AI/ML based solutions to the VLSI domain and their applications will be seen at various levels of abstractions such as device, gate, circuit and system.

Hands-on-training and exposure to different computer-aided design tools such as MATLAB, Python, Cadence, Xilinx- Verilog and FPGA will be provided. Application oriented VLSI system project development using AI/ML will be developed at the end.

2. Expected Outcome

Upon completion of the course, students are expected to possess a comprehensive understanding of fundamental AI and ML concepts, with practical proficiency in modeling, experimenting, and analyzing AI/ML algorithms. They will gain awareness of state-of-the-art research in VLSI design, along with insights into design challenges, non-ideal effects, and EDA tools. Students will learn to incorporate AI/ML approaches to address VLSI design challenges across various abstraction levels, from devices to systems, and acquire hands-on experience with CAD tools like MATLAB, Python, Cadence, Xilinx-Verilog, and FPGA. Furthermore, they will develop project development skills by working on application-oriented VLSI system projects, enabling them to apply their knowledge effectively in real-world scenarios.

3. Organizers:

- Dr. Yash Agrawal, DA-IICT Gandhinagar
- Dr. Manish Khare, DA-IICT Gandhinagar

4. Course Instructors:

- Prof. Jai Narayan Tripathi (IIT Jodhpur)
- Prof. Rohit Kumar (IIT Roper)
- Prof. Somesh Kumar(ABV-IIIM Gwalior)
- Dr. Vinay Palaparthy, DA-IICT Gandhinagar
- Dr. Bakul Hohel, DA-IICT Gandhinagar
- Dr. Yash Agrawal, DA-IICT Gandhinagar
- Dr. Manish Khare, DA-IICT Gandhinagar

5. Address for Correspondence:

Mr. Jayesh Patel
CEP Office
DA-IICT, Gandhinagar
Tel.: (+91) 079-68261676
Email: aip@daiict.ac.in