

JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY



RRETETI

**REENGINEER / RESKILL EXPERIENCED TECHNOCRATS
WITH EMERGING TRANSFORMATIVE INNOVATIONS**

ABOUT JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY (JIIT)

Established in 2001 and granted Deemed-to-be-University status in 2004, JIIT stands as a beacon of excellence in higher education. With a strong focus on disciplines like Computer Science, IT, ECE, Biotechnology, Management, and emerging fields, JIIT is dedicated to shaping future leaders.

Spread over a built-up area of 1,41,610 sq.m., JIIT boasts a fully air-conditioned, residential campus equipped with advanced infrastructure, lecture theaters, smart classrooms, and modern laboratories.



KEY HIGHLIGHTS



FUTURE READY

Ramanujan Universe
(Advanced Supercomputing Facility)
/ Digital Learning Centre / VLSI
Fabrication and Characterization Lab /
5G Lab / STEM SOURCE
(Customised Pre Engineering
Programme for Class XI Onwards)



INNOVATION DECADE

Decade of Innovation 2021 -
2031 Fostering creativity
through innovative Labs
at school & Innovation
Hub (RIDE)



EDUCATIONAL LEGACY

3+ Decades of Quality Education



INNOVATIVE LABS

India's First Brain Computer
Interface Lab, 100
State-Of-The-Art Labs

Achievements Renowned for academic excellence, JIIT has a proven track record of producing industry-ready professionals.

EMPOWERING PROFESSIONALS, SHAPING FUTURES

At JIIT, we believe in preparing individuals to navigate the ever-changing landscape of industry demands. Our executive learning programs are designed to equip participants with cutting-edge knowledge, leadership skills, and the agility to adapt to dynamic challenges.

WHY NOW?

Industry dynamics are evolving rapidly, and professionals need to stay ahead with the latest insights and tools. Our programs bridge the gap between academic excellence and real-world application.

WHAT WE OFFER?



EXPERT KNOWLEDGE

Our faculty comprises seasoned academics and industry veterans.



LEADERSHIP FOCUS

Cultivating a mindset to lead in times of change.



TECHNOLOGY INTEGRATION

Leveraging advanced infrastructure and digital capabilities to foster innovation

Join us to become industry-ready Embrace change confidently, and shape your professional journey with the transformative power of executive education.



AI IN VLSI DESIGN AND FABRICATION TECHNOLOGY

Explore the applications of Artificial Intelligence in optimizing VLSI design, performance analysis, and semiconductor fabrication processes. Hands-on training and case studies prepare participants for innovation in hardware technologies.



5G ESSENTIALS, USE CASES, AND INDUSTRY APPLICATIONS

Dive into the world of 5G technology with an in-depth exploration of its architecture, key design principles, and transformative applications. Gain insights into how 5G enables Industry 4.0, supports drone innovations, and integrates seamlessly with IoT and AI. This course comprehensively explains 5G's potential to revolutionize wireless communication across industries.



DATA SCIENCE AND BUSINESS ANALYTICS

Master data science fundamentals, advanced analytics, and visualization tools like Python, Spark, Power BI, and Tableau. Real-world projects ensure participants are industry-ready.



ARTIFICIAL INTELLIGENCE FOR INDUSTRY APPLICATIONS

Delve into advanced AI techniques, including deep learning, natural language processing, and reinforcement learning. Hands-on projects tackle real-world challenges across healthcare, robotics, and finance.



ELECTRIC VEHICLE TECHNOLOGY

Understand EV fundamentals, propulsion systems, and battery management. Learn to design and troubleshoot EV systems with a focus on sustainability and emerging technologies.

WHO SHOULD ATTEND THESE PROGRAMS?

These programs are designed for professionals, technologists, and leaders who want to stay ahead in their fields and adopt the latest industry advancements.



AI IN VLSI DESIGN AND FABRICATION TECHNOLOGY

Engineers, AI practitioners, and researchers in VLSI and semiconductor fields. Ideal for project managers and strategists in electronics industries.



5G ESSENTIALS

Telecom professionals, network engineers, and wireless communication experts. Perfect for strategists looking to harness 5G technology.



ELECTRIC VEHICLE TECHNOLOGY

Engineers, designers, and professionals in the EV sector. Beneficial for researchers and manufacturers driving EV innovation.



DATA SCIENCE AND BUSINESS ANALYTICS

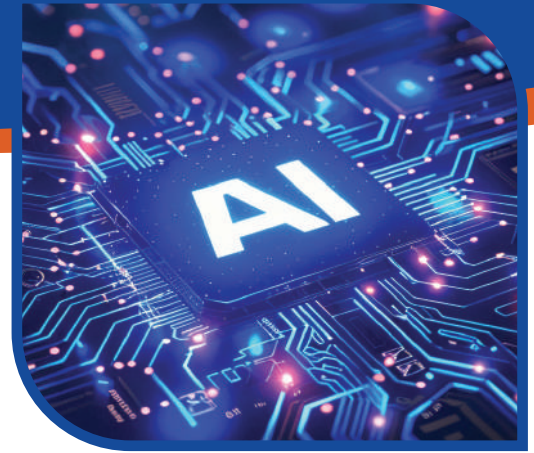
Business analysts, managers, and data enthusiasts eager to master analytics. Designed for technical and non-technical professionals across industries.



ARTIFICIAL INTELLIGENCE FOR INDUSTRY APPLICATIONS

Technologists and developers working on AI-driven solutions. Best suited for professionals advancing AI applications in healthcare, robotics, and finance.

AI IN VLSI DESIGN AND FABRICATION TECHNOLOGY



Program Overview

- **Program Title:** AI in VLSI Design and Fabrication Technology.
- **Duration:** 40 hours.

About the Program

This program focuses on applying Artificial Intelligence to optimize VLSI design and semiconductor fabrication processes. It equips participants with advanced techniques for performance analysis and defect detection.

Key Features

- Hands-on projects using AI tools for real-world challenges.
- AI-driven techniques for predictive maintenance and circuit optimization.
- Focus on innovation in hardware design and manufacturing.
- Access to high-performance computing facilities.
- Access to one of very few VLSI fabrication and characterisation facilities available across the country.

Program Modules

Module 1: Introduction to AI in VLSI and Fabrication

- Overview of VLSI and semiconductor processes with AI applications.
- Basics of design automation and process optimization.

Module 2: AI in Design Automation

- Techniques for layout optimization and power analysis.
- Hands-on projects using AI for chip design and routing.

Module 3: AI in Semiconductor Fabrication

- Applications in defect detection, process monitoring, and yield improvement.
- Practical experience with real-time data analysis in fabrication processes.

Facilities Used

VLSI Fabrication and Characterization Lab.

Powering Innovation with Cutting-Edge Software Tools

- **AI-driven Tools for Hardware Design:** Applied for optimization, defect detection, and verification.
- **Matlab:** Used for circuit design automation and layout optimization.
- **Machine Learning Models:** Implemented for predictive maintenance and yield enhancement.

5G TECHNOLOGY, USE CASES, AND INDUSTRY APPLICATIONS



Program Overview

- **Program Title:** 5G Technology, Use Cases, and Industry Applications.
- **Duration:** 40 Hours including 5G Lab.

About the Program

Dive into the transformative world of 5G networks, from architecture and air interface to deployment scenarios. Learn how 5G revolutionizes communication across industries.

Key Features

- Access to 5G Use Case Lab.
- Comprehensive understanding of 5G NG-RAN and core networks.
- Explore deployment strategies and interworking with LTE.
- Learn about applications in IoT, smart cities, and healthcare.

Program Modules

Module 1: Introduction, architecture, and key technologies

- History of wireless communication and evolution to 5G.
- Key motivations and use cases for 5G technology.

Module 2: Five key design principles of 5G

- Detailed study of NG-RAN, core networks, and slicing technologies.
- Deployment scenarios: NSA and SA options.

Module 3: 5G use cases for industry 4.0

- Industry-specific use cases like smart manufacturing and eMBB.
- Exploration of trends like massive MIMO and mm Wave spectrum.

Module 4: 5G and Drones

- Focuses on the integration of 5G technology with drone operations.
- Enables real-time connectivity and high-speed communication for drones.
- Enhances drone performance in areas such as aerial monitoring and logistics.

Module 5: 5G, IoT, and AI

- Highlights the synergy between 5G, IoT, and AI technologies.
- Demonstrates how ultra-fast networks support connected devices and intelligent systems.
- Showcases the role of these technologies in driving smart automation and industry innovation.

DATA SCIENCE AND BUSINESS ANALYTICS

Program Overview

- **Program Title:** Data Science and Business Analytics.
- **Duration:** 8 Weeks (32 Hours).

About the Program

Learn advanced analytics, visualization tools, and data-driven decision-making. This hands-on program prepares participants to tackle real-world business challenges.

Key Features

- Training in Python, Spark, Tableau, and Power BI.
- Real-world projects with a focus on healthcare, finance, and retail.
- Access to high-performance computing facilities.

Program Modules

Module 1: Foundations of Data Science

- Core concepts of descriptive, predictive, and prescriptive analytics.
- Case studies showcasing data-driven decision-making.

Module 2: Advanced Analytics with Python and Spark

- Data manipulation, visualization, and statistical computing.
- Techniques for predictive modeling and machine learning.

Module 3: Business Intelligence and Visualization

- Building dashboards with Power BI and Tableau.
- Real-time business insights using advanced storytelling techniques.



ARTIFICIAL INTELLIGENCE FOR INDUSTRY APPLICATIONS



Program Overview

- **Program Title:** Artificial Intelligence for Industry Applications.
- **Duration:** 8 Weeks (32 Hours).

About the Program

This program delves into advanced AI topics like deep learning, NLP, and reinforcement learning. Gain practical skills for solving industry-specific challenges.

Key Features

- Tools and frameworks like TensorFlow, PyTorch, and OpenAI Gym.
- Applications in robotics, healthcare, and finance.
- Exploration of AI ethics and societal impacts.

Program Modules

Module 1: Advanced Machine Learning

- Techniques like ensemble learning, SVMs, and dimensionality reduction.
- Hands-on projects to solve real-world problems.

Module 2: Deep Learning and NLP

- Explore CNNs, RNNs, and transformers for language tasks.
- Applications in image recognition, text generation, and translation.

Module 3: Reinforcement Learning

- Techniques for decision-making in dynamic environments.
- Multi-agent systems and inverse reinforcement learning.

ELECTRIC VEHICLE TECHNOLOGY

Program Overview

- **Program Title:** Electric Vehicle Technology.
- **Duration:** 30hr.



About the Program

Learn EV fundamentals, propulsion systems, and battery management. Gain hands-on experience to innovate in the fast-evolving EV industry.

Key Features

- Exploration of charging infrastructure and sustainability practices.
- Hands-on design and troubleshooting projects.
- Preparation for roles in EV research and development.

Program Modules

Module 1: Essentials of Electric Vehicles

- Overview of EV architecture, subsystems, and market trends.
- Comparison of EVs and gasoline vehicles.

Module 2: EV Powertrain and Battery Systems

- Fundamentals of power electronics and battery management.
- Techniques for battery sizing and efficiency optimization.

Module 3: Charging Infrastructure and Sustainability

- Analysis of EV charging technologies and standards.
- Strategies for integrating renewable energy in EV ecosystems.

HOW TO ENROLL

Take the first step towards enhancing your skills and future-proofing your career. Enroll today in our Executive Learning Programs.



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WEBSITE

Visit www.jiit.ac.in/executive-learning to explore more details about the programs and register online.



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