

Indian Institute of Science

NIRF 2023: Research #1, University #1

Advanced Certification Course

MLOps Mastery

Forge the Future of ML Engineering

An entity is only as innovative as its employees





Data & AI

The Key to Unlocking Business Success

- **Unleash Data and AI Potential:** Empowering learners to harness the power of data and AI, driving growth and achieving success in their endeavors.
- **Cutting-edge Techniques and Tools:** Offering a comprehensive overview of the latest data and AI techniques, equipping learners with valuable insights into the most advanced tools available.
- **Practical Application to Real Challenges:** Enabling learners to apply these techniques effectively to address their unique business challenges, ensuring a tailored and impactful learning experience.

- **Data & AI in Business:** Vital for success in today's landscape.
- **Data-Driven Decisions:** Competitive advantage, efficiency, and profitability.
- Customer Understanding, Optimization, Innovation.

What
we offer

Traditional Organizations

- Increased risk of errors
- High Cost
- Manual Processes
- Limited Insights

AI-Driven Organizations

- Increased efficiency
- Improved decision making
- Enhanced customer experience
- Higher ROI



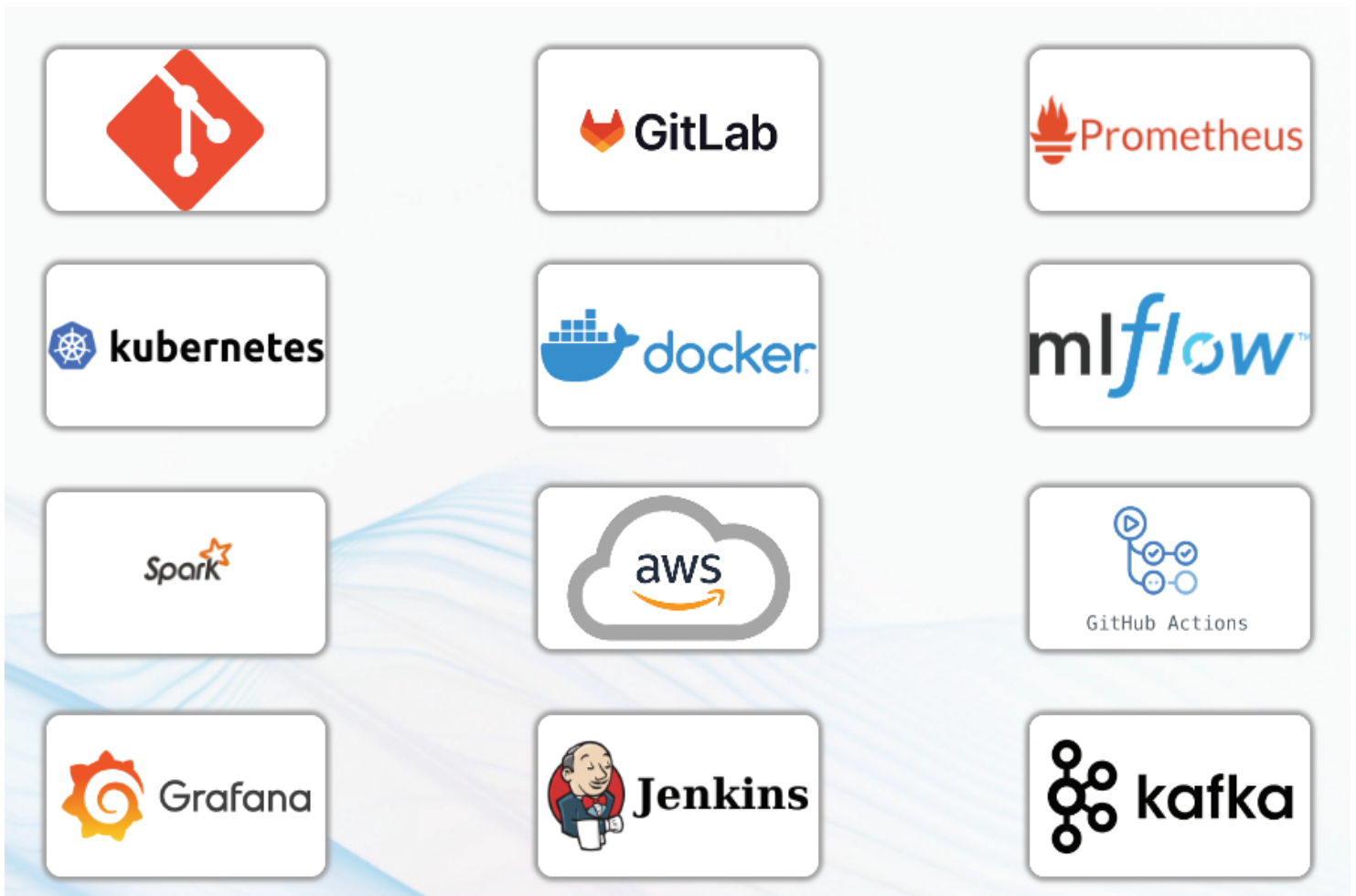


About the Program

This is a comprehensive 3 months course that offers participants a comprehensive learning experience focused on industrializing Machine Learning, also known as MLOps, and optimizing ML system development and deployment.

Tech Stack

Throughout the course, you will gain practical experience and proficiency in using these tools to effectively manage, deploy, and optimize machine learning solutions at scale. By actively engaging with these tools, you'll cultivate a deep understanding of their functionality, allowing you to confidently navigate the complexities of scaling machine learning solutions within real-world contexts.





Program **Benefits**

- Acquire expertise in deploying ML systems at scale, streamlining operations for efficient performance.
- Learn to optimize ML workflows, ensuring seamless integration of models into production.
- Enhance collaboration between data science and IT teams, fostering a cohesive MLOps environment.
- Scale ML deployments effortlessly, reducing time-to-market and improving overall efficiency.
- Gain a competitive edge by mastering MLOps, meeting the demands of large-scale ML applications.

87%

of organizations plan to allocate a larger portion of their IT budget to MLOps initiatives by 2024, showcasing its strategic importance.

Target **Group**

- Working Professionals
- Recent Graduates
- Entrepreneurs and Small Business Owners
- Diverse Learners
- AI and ML Project Managers
- People Seeking Career change

Program **Fees**

Program Fees is **INR 50,000 + GST/-**



Program Overview

Introduction to ML System Design:

Understanding the importance of MLOps in AI projects and exploring the AI deployment lifecycle, with a focus on challenges and best practices.

ML System Architecture & Design:

Building efficient ML system architectures with parallel processing and distributed computing, along with optimization techniques and case studies.

Data Engineering for MLOps:

Exploring data engineering fundamentals, data pipelines, versioning, management, quality, and validation strategies in ML systems.

CI/CD for ML Systems:

Implementing Continuous Integration (CI) for ML projects, automated pipelines for training and testing, version control for models, and Continuous Deployment (CD).

Model Monitoring & Performance Tracking:

Understanding model monitoring, performance, and data drift, while addressing model failures in production and continuous improvement techniques.

Scalable Model Serving & Inference

High-performance model serving strategies, Kubernetes for AI deployment, scaling, load balancing, and cloud-based model deployment.

Security and Governance in MLOps

Ensuring secure ML systems, addressing data privacy, access controls, authentication, and ethical AI deployment.

Managing & Scaling MLOps Infrastructure

Infrastructure management for large-scale ML deployments, auto-scaling, resource allocation, cost optimization, and real-world case studies.

Capstone Project:

This project allows you to apply your learning in a real-world scenario, serving as the culmination of the course. It provides an opportunity to demonstrate understanding and practical skills in MLOps.



Testimonials

DATA SCIENCE COURSE STUDENTS

- “ I enjoyed the introduction to Probability and Statistics, Calculus, and Linear Algebra. The course was thought-provoking, as expected.”
- “ Excellent course. This being the starting course for Data Science, covered the overall basics so that I was able to correlate why we're doing what we're doing.”
- “ I really enjoyed the classes and looked forward to the quizzes and problem sets. The quizzes and problem sets contained good questions allowing us to think and experience the topics covered in class.”

ML COURSE STUDENTS

- “ Awesome course, looking forward to deep learning!”
- “ Great course with great faculty. Perfectly organised and very realistic expectations.”

Program Coordinator

Prof. Sashikumar Ganesan

Ph.D. Computational Mathematics, OvGU Germany

Chair & Associate Professor, Department of Computational and Data Science, previously Postdoc at Imperial College London and WIAS Berlin. Research areas include Finite Element Analysis, Parallel Algorithms, Data-Driven Modeling, ML/NN for CFD, MLOps at scale.



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for aspiring
ML Engineers & Data Scientists

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