NMIMS GLOBAL ACCESS SCHOOL FOR CONTINUING EDUCATION

SVKM'S
Narsee Monjee Institute of Management Studies
Declared as Deemed-to-be University under Section 3 of the UGC Act 1956

M.Sc. (ML & ML DevOps)

Master of Science in Machine Learning and Machine Learning DevOps

Step into the future with Artificial Intelligence & Machine Learning skills

RANKED TOP 100 UNIVERSITY BY NIRF

GRADE A+

Knowledge Partner

INSOFE
Inspire...Educate...Transform.

Accelerate your career with industry-ready machine learning and data science skills

The Master of Science in Machine Learning and ML DevOps is designed to provide deep technical training to the student in the field of Machine Learning and Artificial Intelligence. Upon successful completion you will be able to

Understand and solve complex machine learning problems with

- **Programming language skills in Python, R and Tableau to be able to synthesize large unstructured data sets**

- **Competencies in data mining, regression analysis, text mining, and predictive analytics**

- **Deploy and Scale AI and ML applications with concepts and skills in machine learning to prepare you to build, tune, and discover actionable insights from predictive models**

- **Choose from following electives: Advanced Machine Learning areas like Computer Vision, Natural language processing (NLP), Big Data, Robotics, and Reinforcement Learning**

Computer vision	NLP	Big Data	Robotics	Reinforcement learning

Advance your career for the most coveted profession in the world today

$ 7.3 billion Value of the Global Machine Learning market

82% Growth in demand for **Data analysis skills to grow by 2026**

$ 30.6 billion Estimated value of the Global Machine Learning market by 2024

128 % Growth in demand for **artificial intelligence skills**

1 million Artificial Intelligence professionals will be needed by 2021 globally

135 % Growth in demand for **deep learning skills**

31.6 % Annual Employment Growth Rate for **AI & ML engineers** between 2018-2023

Future proof your career with M.Sc. (ML & ML DevOps)

CAREER POSSIBILITIES

With every industry looking to apply AI, Machine Learning, and Data Science in their domain, the skill is becoming the brain behind business. Most data scientists and AI & ML professionals work in the technology industry. Other options include marketing, consulting, healthcare and pharmaceuticals, finance, government, gaming, and many more.

AI Top emerging Jobs 2020 : LinkedIn

Senior Data Scientist
₹ **19,74,803** LPA

Quantitative Analyst
₹ **15,02,580** LPA

Data Scientist
₹ **10,00,000** LPA

Big Data Engineer
₹ **8,65,000** LPA

Machine Learning Engineer
₹ **8,61,734** LPA

Data Engineer
₹ **8,50,000** LPA

Data Analyst
₹ **7,35,000** LPA

Business Analyst
₹ **7,10,000** LPA

Education background of data science professionals

87%
of all data scientists have at least a Master's degree

41%
of data scientists have a PhD

Harvard Business Review called data science the

"Hottest Job of the 21st Century"

Learn from two nationally renowned institutions

NMIMS Global Access and **INSOFE** are both names to reckon with in the halls of the top corporates of India with alumni who have successfully transitioned to key leadership positions at **Capgemini**, Optum, Quadratyx, DXC technologies, Ericsson, HP, Honeywell, MosChip, Target, Tesco, Tech Mahindra, **Amazon**, Credit Suisse, Flipkart, Rakuten, BYJU's, Arcadis, The Math company, Sutherland, **Uber, Soothsayer Analytics**, HDFC Bank, SBI **.**

Sources:
http://insidebigdata.com
http://www.glassdoor.com/
https://analyticsindiamag.com/pros-cons-of-choosing-a-career-in-data-science/)

Linkedin
https://www.forbes.com/sites/louiscolumbus/19/01/2020/roundup-of-machine-learning-forecasts-and-market-estimates2020-/?sh=35a10fd5c020
https://www.analyticsinsight.net/analytics-insight-predicts-1006945-job-openings-in-artificial-intelligence-in2021-/

Why should you opt for the NMIMS Global Access M.Sc. (ML & ML DevOps)?

Rigorous and holistic curriculum
Industry focused curriculum offered in a flexible online blended interactive format that works for busy professionals.

24-months program duration

24 months

- With 48-months program validity
- Monday to Thursday:
  2hrs online lecture per day

8 academic terms (quarters)

15-20 days

- 15-20 days per course
- 1 course at a time
- 100 credits program

Blended Immersive Learning

On Campus Bootcamp
Bootcamp for a hands-on immersive learning experience which will include an opportunity to solve real industry problems, build a prototype

Masters Dissertation
The Masters Dissertation encourages exhaustive study and requires students to validate research paper results and prove those results using real data under the guidance of an assigned scholar

Online mode of learning via theory and hands on practical sessions.

- 750+ Learning hours
- 220+ teaching hours
- 212+ Lab hours

Peer to peer chat

Create your success story with the NMIMS Global Access Seamless Online Learning Experience

Learning Management System

- Live face-to-face online classes with self-paced coursework
- Avail lecture recordings within 4 hrs
- Get video transcripts for ease of learning
- Connect with faculty for addressing doubts on any topic
- Access the entire system with a mobile app
- Access to a vast NMIMS e-library
- Customised update management process to suit individual needs

Learn from the best

- 50+ nationally renowned academicians, scholars, and experts
- Option to post your query to faculty
- Option to set up a 15-minute call with faculty

MySQL

R

python

NLP

tableau SOFTWARE

GitHub

Robotics

Reinforcement learning

Data Engineering

Big-Data

Spark APACHE

Spark SQL

COOL Spark ML Apache

hadoop

Machine Learning

Computer vision

Learn In-Demand Skills ✓

Acquire skills most frequently posted by employers and gain confidence and mastery in the entire AI algorithm development and deployment cycle (understanding business problems to analytical and mathematical problems, data understanding, data preparation, modelling, evaluation, and deployment).

- Build a strong foundation with Statistical Analysis & Probability and Statistics
- Analyse Big Data
  - Apache Spark
  - Hadoop Ecosystem
- Specialised Advanced Machine Learning areas
  - Natural language processing (NLP)
  - Big Data
  - Robotics
  - Reinforcement Learning
- Create, critically assess, interpret, and communicate rich visualizations with strong programming tools for algorithm development and visualization
  - R, Python, Tableau

Study while you work

- Designed for working executives

Get Career Assistance ✓

- Get access to 500+ top hiring partners of NMIMS Global Access & INSOFE
- Also access NGASCE Job portal to support placement activities
- Apply to unlimited job positions through the entire placement cycle
- Gain CV & interview assistance

Solve real-world problems with AI & Machine Learning Skills

The curriculum of the **Master of Science in Machine Learning and Machine Learning DevOps** covers base skills in mathematics, computer science, management, and law and builds competency in core artificial intelligence methods, computational science, electives that incorporate computer vision, text mining and natural language processing, big data and robotics and autonomous systems and reinforcement learning.

Quarter 1

Mathematics and Computer Science

The first quarter focuses on creating a fundamental base of mathematics and computer science courses that lay the foundations for the program.
- Foundations of Probability & Statistics for Data Science
- Data Structures and Algorithms
- Advanced Mathematical Analysis for Data Science

Quarter 2

Computer Science and AI & ML

The second quarter continues to focus on creating a fundamental base with focus on basics of probability, essential programming, and advanced data structures.
- Essential Engineering Skills in Big Data Analytics
- Statistics and Probability in Decision Modeling - 1
- Statistics and Probability in Decision Modeling - 2
- Advanced Data Structures and Algorithms

Quarter 3

AI & ML

The third quarter focusses on artificial intelligence and machine learning. It introduces participants to telling stories with data and visualization, design thinking and algorithms in machine learning.
- The Art and Science of Storytelling and Visualization & Design Thinking - 1
- Methods and Algorithms in Machine Learning - 1
- Methods and Algorithms in Machine Learning - 2

Quarter 4

AI & ML

The fourth quarter teaches participants advanced AI and ML concepts. They learn how to write end to end production ready AI/ML code, neural nets and their first chosen Elective.
1. Methods and Algorithms in Machine Learning - 3
2. AI and Decision Sciences
3. Elective 1

Quarter 5

Computer Science, AI & ML and Business

In quarter five, participants study advanced python programming, specialize in their second advanced AI & ML Elective. They also start the complementary business modules of the program.
1. Advanced Python Programming
2. Elective 2
3. Business Comm. & Presentation Skills - Data Analytics
4. Economics for Analysts

Quarter 6

Business Courses

In Quarter six, participants continue and complete the Business courses that complement the advanced AI and ML courses.
1. Business Law and Ethics
2. Behavior Science and Analytics
3. Digital and Social Media Analytics
4. Product Management
5. Project Management

Electives: Students can choose from the following:

| Computer Vision fundamentals and Deep learning applications | Text Mining and NLP, Deep Learning for NLP | Big Data: An overview of Big Data and Hadoop ecosystems | Robotics and Autonomous systems and Reinforcement Learning |

Creating AI & ML professionals for cutting edge business solutions

Quarter 7

Bootcamp to solve real industry problems:

A residential on-campus boot camp will be held in Mumbai where the students will build and scale applications/prototypes from start to finish individually by application of all the concepts learnt in the previous modules and tools like Python, Docker, and GitHub. It will allow for an exceptional opportunity to work closely alongside peers and faculty and participate, network with industry leaders, and learn about emerging trends in the information field. Examples of these can be recommendation engines, chatbots, price prediction models, etc.

In quarter 7, participants will also complete their computer science course (Architecting Enterprise Applications and Design Thinking2- and Quantitative Research Methods) and begin working on their master dissertation.

Quarter 8

Scholar-guided Master Dissertation

In the 2nd half of Q7 and entire Q8, students will focus on the Masters Dissertation for **over 200 hours.** This will encourage

- Exhaustive study
- Require students to validate research paper results and prove & defend these results using real data under the guidance of an assigned scholar
- Allow students to gain deep technical professional experience by applying the concepts, tools and techniques learnt during the course
- Work on developing and implementing an ML/AI based solution to given research paper
- An understanding of business problems and using data to understand how to apply research results

Knowledge Partner:

With a lineage of about a decade, International School of Engineering (INSOFE) is amongst Asia's largest data science/big data analytics schools. INSOFE is the brainchild of veteran scholars and academicians Dr. Dakshinamurthy V Kolluru & Dr. Sridhar Pappu and boasts of pre-eminent team data scientists. It has routinely ranked amongst the top data science schools in the country and has academic affiliations with several high-ranking Indian and International Universities and several prominent institute-industry. INSOFE also does high-end consulting globally for product, consulting and services companies in various domains, helping them build their Centres of Excellence in the space of Big Data and Analytics.

Awards and recognition

16 Big Data Certifications That Will Pay Off	**CIO.com** 2013 to 2016
Top 5 Big Data Training Institutes 2016	**Silicon India** 2016
Top 9 Analytics Training Institutes in India in 2016	**Analytics India** 2016

Faculty

Gain academic and industry insights from expert faculty

| **50**+ Nationally acclaimed scholars, PhD. Holders from Top Universities | **75**+ Patents | **20**+ Years average work experience | **300**+ Research papers |

The faculty pool consists of over 50+ world class Products Builders, Researchers and Consultants Scholars. These are practicing academicians together bring depth in the approach to data science education.

Dr. Dakshinamurthy V Kolluru
FACULTY
Founder & President at INSOFE. M.S. and Ph.D. in Material Science and Engineering from Carnegie Mellon University, USA

Dr. Sridhar Pappu
FACULTY
Co-Founder, Executive VP-Academics at INSOFE. M.S. and Ph.D. in Material Science and Engineering from The University of Texas at El Paso, USA

Prof. Anuradha Sharma
FACULTY
Dean - Delivery & Quality at INSOFE. Masters in Applied Statistics from Bowling Green University

Dr. Brinda Sampat
FACULTY
Ph.D., M.Sc in Information Technology, University of Mumbai

Dr. Venkatesh Sunkad
FACULTY
Ph.D. in Electrical Engineering from the University of Colorado, USA M.S in Electrical Engineering from The University of Texas at Arlington, USA
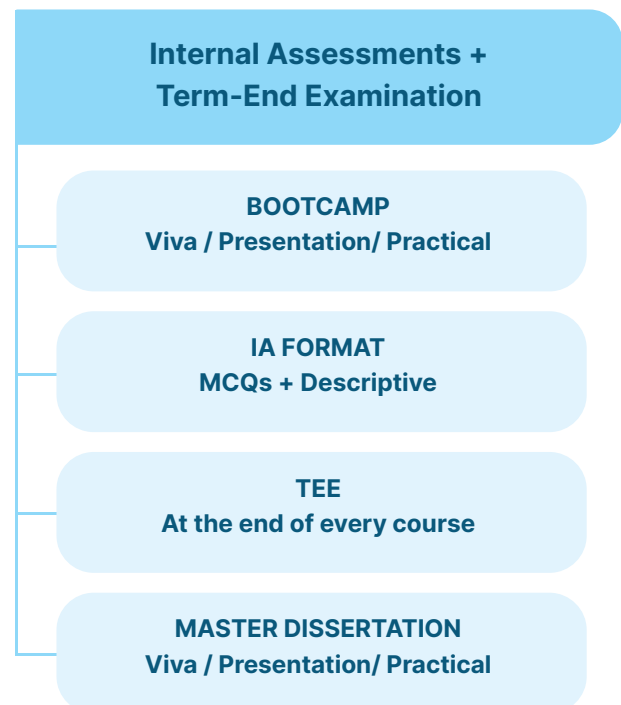

Dr. Anand Narasimhamurthy
FACULTY
Ph.D. and M.S in Computer Science and Engineering from Penn State University, USA

Faculty assigned to a subject for each semester will be at the discretion of the university. It is not necessary that the mentioned faculty will teach across all batches and in all terms.

Evaluation metric

The M.Sc. (ML & ML DevOps) evaluation takes a holistic approach that allows students to apply knowledge via multiple routes such as internal assessment, examination, and gain hands on experience at a bootcamp and acquire in-depth knowledge through a master dissertation.

- For each course in each Term 60% weightage is assigned to internal assessments (IAs) and 40% weightage to term end exams (TEE).
- A term end examination will be taken at the end of each course
- The Master project and Bootcamp consisting of viva, presentation and practical

Internal Assessments + Term-End Examination

BOOTCAMP
Viva / Presentation/ Practical

IA FORMAT
MCQs + Descriptive

TEE
At the end of every course

MASTER DISSERTATION
Viva / Presentation/ Practical

Eligibility, Selection Procedure & Fees

Eligibility criteria

- B.Tech/Bachelor's Degree in Maths/Computer Science/Statistics/Economics/Science with Maths Component with a minimum of 50% and 3 years of Work Experience.
- M.Tech/Master's Degree in Maths/Computer Science/Statistics/Economics/Science with Maths Component with a minimum of 50 % and 2 years of Work Experience.

Selection and Admission Process

1 Application ▶ **2** Entrance Test ▶ **3** Selection Criteria ▶ **4** Documents Submission ▶ **5** Program Fee payment ▶ **6** Confirmation

Step1

Application
- Fill an online registration form
- Submit application Fee: Rs. 1500 + Initial Fee 10,000 /-**

Step2

Entrance Test
- Select test slot (60 Mins Duration) (Fri / Sat / Sun)
- Appear for an Online Test* (60 Mins)

The syllabus consists of three sections:
1. Data Interpretation (Statistics)
2. Quantitative Aptitude (QA)
3. Logical And Verbal Reasoning (Communication Skills)
- Online Interview *(Admissions Committee May Conduct Online Interview As Part Of The Selection Process)*

Note*: - Only **One Attempt**

Step3

Selection procedure
- Your selection will be determined on the basis of your academic records, work experience, test scores and interview (when applicable).
- An offer letter will be shared with successful candidates

Step4

Documents Submission
- Post receipt of Offer letter candidates will need to submit all the required papers mentioned in the mandatory list of documents as per eligibility criteria

Step5

Program fee payment
- Seat Reservation Fee will need to be deposited within 7 days of receiving offer letter
- Full or Annual Program Fee to be deposited within 1 month of offer letter / program start - whichever is earlier

Step6

Confirmation
- Your admission will be confirmed basis the selection procedure, document authentication and fee payment
- A welcome letter, ID card, student number and portal access will be shared upon successful completion of the admission process

Fee

Payment options

1. **Full Fee payment:** ₹ **570,000/-** **
2. **Annual Fee Payment:** ₹ **300,000/-** ** **fee per year**
   No. of years: 2

   ** Refer website for fee refund policy.

Finance options available

About NMIMS Global Access

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NMIMS Global Access (NGA-SCE), the online & distance learning arm of the SVKM's NMIMS Deemed-to-be University, is India's top Ed-tech University. The institution was founded in 1994 with an aim to provide distance education and in 2013 began the journey towards online learning making it a truly accessible university that is changing the dynamics of higher education delivery in India. With a focus on incremental innovation, the institution is unique in its approach as it uses technology across all aspects of functioning and learning delivery

71,000
Active students

Students from
6000
PIN codes of India

Students from
7500
Corporate firms

Programs by NMIMS Global Access

Each program offers multiple industry focused specialisations

MBA (X)
MBA Executive with Specialisation in Business Analytics

MBA (WX)
MBA for Working Executives

M.Sc. Applied Finance

Professional Diploma Programs

Post Graduate Diploma in Business Management

**BCom & BBA**

Diploma Programs

Certificate Programs

Student Success Team

At NMIMS Global Access, a dedicated team caters to all queries and hurdles of program participants every step of the way. There is a dedicated Student counsellor for one-stop solution on all queries. Moreover, a live chat console helps the participants interact with the counsellor. This helps them transition into the course and resolve their problems at any point during the course with ease.

About SVKM's NMIMS Deemed to be University
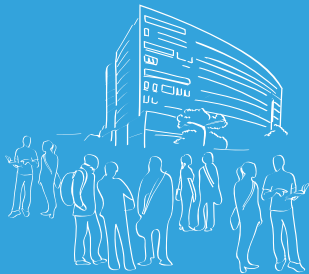
750
Full-Time
Faculty Members

8
Campuses
across India

18
Multidisciplinary
Schools
across Engineering,
Commerce,
Management,
and more

SVKM's Narsee Monjee Institute of Management was founded in 1981 and achieved Deemed-to-be-University status from the University Grants Commission in 2003. SVKM's NMIMS is now a globalised centre of learning, providing its students a balanced exposure to research, academics, and practical aspects of the various functions across industries.

Institutions par eminence

NMIMS Global Access, Centre of excellence in analytics and data science and SVKM's Mukesh Patel School of Technology Management and Engineering all belong to SVKM's Deemed to be University

Centre of excellence in analytics and data science

SVKM's NMIMS Centre of Excellence (COE) has been designed to build an analytics culture within the institution and across country for fuelling innovative development & deployment of curriculum, projects, teaching and training across the needs of the Schools of NMIMS and industry in field of Analytics and Data Sciences. The Centre consists of technologies & tool-kits, data scientists, educationist, techno-functional consultants, interspersed with Data Sciences & Analytics Education.

SVKM's Mukesh Patel School of Technology Management and Engineering (MPSTME)

MPSTME is a top ranking engineering and technology education school which is also home to a dedicated data science department established to meet the advances in the rapidly growing Analytics, AI and Information Technology Industry.

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