

Offered by

SHIV NADAR
UNIVERSITY
DELHI NCR



Certificate in Data Science and Analytics for Business

Transition from Descriptive to Prescriptive Analytics to view a problem as an opportunity and identify its optimal solution

Emerge as a technocratic soothsayer through intelligent big data analysis to reimagine industry 4.0 and beyond

snu.edu.in

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JIGSAW ACADEMY
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Message from Our Visionaries

“At Shiv Nadar University, our mission is to create an enduring, comprehensive global center of excellence in higher education, which is learner-centric, anchored in research & innovation, driven by an outstanding faculty, and supported by national & international partnerships. We offer you futuristic programs that are tailored optimally to boost your career prospects as you stay life-long learners in today's VUCA (volatile, uncertain, complex and ambiguous) world -- we arm you with our VUCA: vision, understanding, clarity and agility. This program in Data Science and Analytics for Business is a unique strategic convergence of science, economics and management in an interconnected IT framework, with specifically designed learning outcomes that will give you a clear edge as you drive ahead to the future.”

Dr. Rupamanjari Ghosh

Vice-Chancellor & Director of the School Of Natural Sciences
Shiv Nadar University



“Data is the asset that most 21st century businesses are leveraging to generate intelligence that is powering humans to collaborate with smart machines to create value that is redefining the boundaries of development. The Data Science & Analytics for Business program is designed to equip students with the cutting-edge skills required to create the ‘data-driven intelligence’ that guides such value creating decisions in organizations.”

Dr. Bibek Banerjee

Senior Dean and Head of Strategic Initiatives
Director, School of Management & Entrepreneurship
Shiv Nadar University

“After four decades of rapid development of rigorous foundations in Computer Science, the discipline is now influenced by applications focused on processing of huge amounts of data produced by social and sensor networks, and other forms of digitized information. This is shifting the emphasis from basic programming and discrete mathematics to areas like statistics, probability and data-driven decision mechanisms which are all captured under the umbrella of Data Science that all budding Engineers, Scientists and Decision makers need to be conversant with in the coming decades.”

Dr. Sandeep Sen

Director of the School Of Engineering
Professor, Computer Science and Engineering
Shiv Nadar University



“Today we live in a complex world. We face innumerable choices, as individuals, as policymakers, and as company executives, and have to make decisions that can potentially have a deep and long-term impact. To make good decisions, we need to make use of available data. That is why, in today’s world, it is critical to have the ability to make sense of data. One has to be able to gather, analyze, visualize, and interpret data. This data analytics course promises to do exactly that, enable you to thrive in a world with ever-expanding data generation. It will give you all the tools necessary - data cleaning, analysis, visualization, interpretation - to help take better decisions and solve complex societal problems. Students from any background, with a liking for analytical and logical ways of doing things, will benefit from the program.”

Partha Chatterjee

Dean of International Partnerships,
Professor and Head of the Department of Economics
Shiv Nadar University

“Analytics industry experts and hiring managers are very clear about what ‘kind’ of analytics or Big Data and Machine Learning professionals they want to hire. Jigsaw Academy provides extremely specific, tailor-made content that caters to the unique requirements of job roles and profiles, creating analytics specialists not generalists.”

Gaurav Vohra

CEO,
Jigsaw Academy



A program that empowers you to make a career in the world of Data Science and Business Analytics and also those that are driven by Analytics

Shiv Nadar University (SNU) in partnership with **Jigsaw Academy**, a globally recognized premier training provider in the fields of data science & emerging technologies, has brought to you a unique opportunity to transform your career and master the expertise. The program, **Data Science and Analytics for Business (DSAB)**, will grant you mastery over Data Science and Machine Learning so that you can solve the most complex business problems using advanced predictive modelling and machine learning techniques, to emerge as champion thought leaders and decision makers.

DSAB – A Holistic Framework for Applied Data Analytics

The DSAB program, jointly offered by SNU and Jigsaw, will create a strong foundation in both technical and business aspects of data science and analytics. The program proceeds to then explore data visualization, predictive modelling, and machine learning tools for advanced prescriptive analysis of both structured and unstructured data. The pedagogy is a case study-based approach on real-life business scenarios with substantial practice on rich business datasets.

“Break beyond traditional benchmarks through accelerated forecasting of Optimal Business Strategies”

The SNU-Jigsaw Edge – the DSAB Promise



**Learning from an
Institute of Eminence**

SNU has been recognized by the Govt. of India as a model academic institute of the future. Therefore, you can expect a high standard of quality curriculum, pedagogy, and infrastructure from a prestigious brand.



**Research-focused
Multidisciplinary Core Vision**

You will benefit from the cross-domain interplay and multidisciplinary academic theme that we follow.



Personalised Mentorship and Tutorials by Practitioner Experts

Our core and visiting faculty have rich industry experience. Also, our industry linkage facilitates access to thought leaders for ideas and mentorship.



Feedback and Coaching to Sharpen Skills

Our case study-based hands-on approach is complemented by extensive feedback and coaching.



Peer-to-Peer Learning and Collaboration

Through a carefully selected cohort of students, you will enjoy learning and associating with a rich think tank of an enthusiastic peer group.



World Class Faculty

Our Faculty hails from top ranking global institutes and leading corporate setups to bring you the best blend of academia and industry to learn from.



Perfect Blend of Synchronous and Asynchronous Learning

To promote critical thinking skills, we will emphasize on live access to our expert teachers through synchronous discussion sessions. This will be complemented with a rich suite of self-paced assignments and project work, where you will collaborate with your peers for richer learning.



Networking Potential with Top Leaders in the Industry

Connect with a rich cohort group, world class faculty, and leading industrial thought leaders for greater exchange of ideas and opportunities.



Case Studies and Projects From the Industry

You will be challenged with actual case studies and projects for greater situated cognition and applied learning.



Exposure to Competitive Hackathons

Fire your imagination through opportunities to compete on relevant challenges through exciting hackathons with equally exciting rewards.



Secure your Future

SNU and Jigsaw will offer placement assistance to all participants who successfully qualify in the program. The average salary hike after program completion is around 30%.

Learning Outcomes

Upon the completion of the program, one will be able to immerse themselves in fields of technology, business and communication. The new comprehensive Data Science skill sets acquired through this certification would enable one to launch a lucrative career in analytics. By the end of the program, students will be able to:



Pedagogy

Data Science and Analytics for Business (DSAB) has been planned for a select group of students for effective personalized attention given to each one of them. Live classes will be conducted online with ample hands-on practice in a simulated environment. The program includes 170+ hours of instructor led training from the top notch faculty and equal amount of asynchronous readings. Significant additional time and effort will be required for practice, self-study, collaborative activities, and assignments.



Earn proficiency badges as you progress



Key topics



Through the course of 14 weeks, students will achieve mastery over steps in the process of Data Science and Analytics and learn about the use of Powerful tools and libraries for this purpose








Program Curriculum

The content is organized into highly cohesive modules, each of which helps the participant earn a distinct badge of qualification.

Week	Topic	Duration (hours)
Week 1	Overview of Analytics, Analytics Methodology and Problem Definition	3
Week 1	Exploratory Data Analysis - Principles and Output	3
Week 2	Querying with SQL	3
Week 2	Data Manipulation with SQL	3
Week 3	Recap & Assignment discussion + Industry Guest Lecture	3
Week 3	Practice Session + Instructor Guided Tutorials on Assignments	3
	 Badge: Descriptive Analytics with SQL	
Week 4	Introduction to Python	3
Week 4	Data Manipulation with Python	3
Week 5	Data Manipulation with Python	3
Week 5	Data Manipulation with Python	3
Week 6	Data Visualization with Python	3
Week 6	Descriptive Analytics with Python	3
Week 6	Recap + Assignment discussion + Industry Guest Lecture	3
Week 7	Practice Session + Instructor Guided Tutorials on Assignments	3
	 Badge: Python Programming for Data Science and ML	

Week	Topic	Duration (hours)
Week 8	Introduction to Probability and Statistics	3
Week 8	Hypothesis Testing - Part 1	3
Week 9	Hypothesis Testing - Part 2	3
Week 9	Hypothesis Testing Examples and Case Studies	3
Week 10	Recap & Assignment discussion + Industry Guest Lecture	3
Week 10	Practice Session + Instructor Guided Tutorials on Assignments	3
 Badge: Statistics and Applications in Data Science		
Week 11	Introduction to Predictive Modeling - Linear Regression	3
Week 11	Linear Regression - Case Study	3
Week 12	Logistic Regression - Part 1	3
Week 12	Logistic Regression - Part 2	3
Week 13	Logistic Regression - Case Study	3
Week 13	Time Series	3
Week 14	Time Series	3
Week 14	Time Series	3
Week 15	Recap + Assignment discussion + Industry Guest Lecture	3
Week 15	Practice Session + Instructor Guided Tutorials on Assignments	3
 Badge: Statistical Modeling with Python		

Week	Topic	Duration (hours)
Week 16	Introduction to R	3
Week 16	Data Manipulation with R	3
Week 17	Data Manipulation with R	3
Week 17	Data Visualization with R	3
Week 18	Statistical Modeling with R	3
Week 18	Recap & Assignment discussion + Industry Guest Lecture	3
Week 19	Practice Session + Instructor Guided Tutorials on Assignments	3
	 Badge: R for Data Science	
Week 19	Introduction to Machine Learning - Tree models and Data Wrangling	3
Week 20	Clustering Models	3
Week 20	PCA	3
Week 21	Machine Learning - Random Forest	3
Week 21	Segmentation and Tree Models Recap and Caselets	3
Week 22	Recap + Assignment discussion + Industry Guest Lecture	3
Week 22	Practice Session + Instructor Guided Tutorials on Assignments	3
	 Badge: Machine Learning Models with Python	
Week 23	Qualitative Data Analysis and Web Scraping	3
Week 23	Introduction to Text Mining Concepts	3

Week	Topic	Duration (hours)
Week 24	Introduction to Text Mining Concepts	3
Week 25	Introduction to Neural Networks	3
Week 25	Introduction to Neural Networks	3
Week 26	Understanding Cloud Computing and Cyber Security	3
Week 27	Recap & Assignment discussion + Industry Guest Lecture	3
	 Badge: Advanced ML techniques	
Week 27	Storytelling with PowerBI	3
Week 28	Storytelling with PowerBI	3
Week 28	Storytelling with PowerBI	3
Week 29	Recap & Assignment discussion + Industry Guest Lecture	3
	Practice Session + Instructor Guided Tutorials on Assignments	
Week 29	 Badge: Storytelling with PowerBI	
Week 30	Project Submissions and Viva	16
Week 33	 Final Certificate	

Note: A learner who successfully completes the Certificate Program on Data Science and Analytics for Business (DSAB) will be eligible to receive 15 academic credit points. The learner can apply these 15 credit points that they've earned against a proposed Master's program in Data Science/Business Analytics in future with Shiv Nadar University (SNU).

Please Note: For those of you who are interested, we also give access to self-paced learning content around Big Data concepts.

Introduction to Big data	The world of big data, parallel computing, history of Hadoop, The use cases of Hadoop in real-time
Introduction to Hadoop, HDFS and it's architecture	Hadoop distributed file system, Master slave architecture, Hadoop components



Career Prospects

The data Big Bang requires a substantial pool of highly skilled data science and analytics experts. Professionals with a strong data science background will drive most of the industries forward and are sure to play a vital role in defining the companies of the future. So, career prospects are exciting with a high number of employment opportunities, where there is huge scope to create impact and command lucrative compensation.

“Transform your Business through intelligent mapping and analysis of the Industry Landscape”

Who are some of our Placement Partners?

Once you successfully complete the program, you will enjoy a rewarding career in the data science and analytics fields with the best of organizations. Here are a few industry movers that our alumni have been thriving in:



JPMORGAN CHASE & Co.



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Gramener

Program Fee Details:

Registration Fee - INR 10,000 + GST | Program Fee - INR 95,000 + GST

About the Partner Institutions

Shiv Nadar University

Shiv Nadar University is a student-centric, multidisciplinary and research-focused University offering a wide range of academic programs at the Undergraduate, Master's and Doctoral levels. The University was set up in 2011 by the Shiv Nadar Foundation, a philanthropic foundation established by Mr. Shiv Nadar, founder of HCL.

The University has recently been selected as one of only eight private **"Institutions of Eminence"** by the Government of India. In the NIRF (Government's National Institutional Ranking Framework), the University has been the **youngest private institution in the 'top 50'** Overall list. Shiv Nadar University has been accredited with **Grade 'A'** by **NAAC (National Assessment and Accreditation Council)**. It is also among a select group of green-field institutions in the country which were awarded the prestigious **Atal Incubation Center grant by the NITI Aayog, Government of India**, in the very first round in 2017



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Schools



42

Programs
Offered



36

Departments



~2,200

Students



~250

Faculty Members



3000 Cr.

Investment



286

Acre Campus



30+

Sports Facilities

Jigsaw Academy

Headquartered in Bengaluru, India, Jigsaw Academy was founded by the duo Gaurav Vohra and Sarita Digumarti in the year 2011. Upskilling to emerging technologies has become the need of the hour, with technological changes shaping the career landscape. Jigsaw Academy offers programs in **data science & emerging technologies** to help you **upskill, stay relevant & get noticed**. The domain experts & educators at Jigsaw Academy offer meticulously structured courses with **industry relevant curriculum**. The domain experts here offer meticulously structured courses to help train professionals in the areas of **Analytics, Data Science, Machine Learning, Big Data, Business Analytics, Cyber Security & Cloud Computing**, to name but a few.



A Manipal Global
Investee Company



Recognized as the No.1 institute for
data science training in 2019,
2018, 2017, 2016, 2014 and 2013



Awarded the prestigious “Partner
of Excellence Award 2019” by
NASSCOM



400+ years of combined
teaching experience



3000+ companies with
Jigsaw Academy students



1M+ hours of learning
content viewed

Faculty

The Faculty for Postgraduate Diploma in Data Science is an active community of acclaimed scholars, industry experts and professionals on the cutting-edge of high technology.



Dr. Raghupathy Madhavan Balakrishnan

PhD., IIT Madras
Department of Finance, Accounting and Control,
School of Management and Entrepreneurship



Dr. Arka Roy Chaudhuri

Ph.D., University of British Columbia, CANADA
M.S., Indian Statistical Institute, Delhi
Department of Economics



Dr. Kaushik Chaudhuri

PhD., (Business Administration) Reitaku University, Japan
Department of Organization Behavior and Human Resource Management,
School of Management and Entrepreneurship



Dr. Vijayta Fulzele

Ph.D., IIT Delhi
M.B.A., IIT Kanpur
Department of Decision Sciences, Operations Management, and Information Systems



Dr. Jaideep Ghosh

Ph.D., University of Pittsburgh, USA
M.S., University of Pittsburgh, USA
Department of Decision Sciences, Operations Management, and Information Systems



Dr. Paromita Goswami

PhD., Birla Institute of Technology and Sciences, Pilani
Department of Marketing Management, Social Innovation,
School of Management and Entrepreneurship



Dr. Meenakshi Ghosh

PhD., (Economics) University of Illinois, USA
Department of Economics and Public Policy,
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Dr. Sandeep Kumar Gupta

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Dr. Surya Majumdar

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Dr. Ankur Mehra

Doctor of Philosophy, IIM Calcutta
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School of Management and Entrepreneurship



Dr. Aishna Sharma

PhD., Jawaharlal Nehru University
MPhil., Jawaharlal Nehru University
Department of Economics and Public Policy,
School of Management and Entrepreneurship



Bharadwaj Aldur

Master's Degree, University of Southampton
Senior Data Scientist, AirAsia
Industry Expert



Anshuk Pal Chaudhuri

MBA, NMIMS
Consulting Member Technical Staff,
Data Scientist, Oracle
Industry Expert



Kamal Das

MBA, IIM Ahmedabad,
Faculty & VP Operations,
Jigsaw UNext



Dr. Reena Duggal

PhD., Amity University
Industry Expert



Sandeep R Diddi

Master's Degree, IIT Stuart School of Business
Practice Leader Big Data and Data Science, ASpire NXT - AWS Analytics
Partner
Industry Expert



Dr. Chetana Hegde

PhD., Bangalore University
Manager (Data Science),
Faculty, Jigsaw UNext



Vinay Konanur

BE, Indian Institute of Technology, Roorkee
Head of Program,
Jigsaw UNext



Jitendra Manwani

BE, Jai Narain Vyas University
Head of Data Science & Machine Learning Programs
Faculty, Jigsaw UNext




Kunnal Naik

B.Tech, Institute of Aeronautical Engineering
Marketing Operation Advisor, Dell EMC
Industry Expert



Dipyaman Sanyal

PhD., Jawaharlal Nehru University
Co-Founder & CEO, dōnō consulting
Industry Expert



For additional queries,
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