FAST FACTS

Programme B.Tech Computer Science & Engineering + Big data Analytics/Business Analytics **Top institutes** for UG: UPES, Graphic Era University, U. V Patel College of Engineering, Mody University, DIT University For PG: IIT Delhi, IIT Hyderabad, Reva University, VIT University, Amrita University **Major recruiters** E-commerce, pharmaceutical, Insurance and Banking sector companies **Job profiles** Advanced Analytics & Optimization Consultants, data analytics/data manager **Salary** Rs. 4 to 9 lakhs per annum

UNESCO'S "STATE of the Broadband 2015" report ranks India at 131 on broadband penetration

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Do you know how to decipher the language of data science and use large volumes of data to find answers to business problems?

by Shiphony Pavithran Suri

Imagine, your boss giving you customers' demographics and asking you to come up with a meaningful conclusion to design a product. If you are not curious about the data and its usage you will not be able to provide the right solution. Data analytics, using computer-based tools provides the solution. These applications help discover patterns and relationships in large volumes of data, enabling interpretation of the result and form business strategies. "Big data analytics is tightly embedded in our daily lives. It is used in finance markets for algorithm trading, online shopping for recommendations and airlines for optimized routing," says Srinivas Chilukuri, Data Science Manager at ZS Associates, Pune.

Managing data

With the information explosion happening around us, large unstructured data sets, arising out of weblogs, social media posts, sensors, images, e-mails and video files, need to be harnessed and analyzed. "Through Facebook and Twitter newsfeeds, the data analysts can detect and learn our patterns and preferences and start selecting top articles for our newsfeed," shares Sonya Hooja, Co-Founder & COO, Imarticus Learning, a financial services and analytics education firm. For instance, if Twitter handles more than 6000 tweets per second then that means 500 million tweets are posted per minute or 500 million per day. So a lot of processing power is needed to handle this data.

What is data analytics?

Analytics is a way of thinking that allows the use of knowledge, tools and technologies to extract valuable insights from data. Business/data analytics is something that can process these types

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of records to build a technical and financial model. Data analysts look at the data a company generates, and derive insights needed to garner more business and enhance customer experience. Adequate knowledge of Data Mining, Data Warehousing, Business Intelligence, Statistical Methods, Query Languages such as SQL is essential for them. "Analytics combines processes, technologies and techniques turning data into knowledgeable information to drive business planning," says Dr. Manish Prateek, Associate Dean, Centre for Information Technology, University of Petroleum & Energy Studies (UPES). His center offers B.Tech Computer Science & Engineering with specialization in Big Data Analytics in association with IBM.

Growing demand

"Big data analytics is one of the fastest emerging industries creating a need for skilled professionals and students to have knowledge to manage the data differently," says Prakash Menon, Global President Skills & Careers Group, NIIT Ltd. NIIT offers industry-aligned certifications in Big Data & Data Sciences, Databases Systems, Artificial Intelligence and Machine Learning. According to Nasscom the big data analytics sector in India is expected to witness eight-fold growth to reach $16 billion by 2025 from the current level of $2 billion. A survey by Deloitte reports that 65.2 percent of respondents are using some form of analytics that is helping their business.

Technical Vs. Management Data Analytics

Though at a first glance jobs in Data Analytics look suitable for people with management background, it is also necessary to use coding tools to build up an efficient mathematical model. "It depends upon the requirement of the organization. If the company wants a person with good management skills and less coding, then MBA is preferred. Whereas if coding is the preference then definitely B.Tech graduate is required," says Dr. Ankush Mittal, Director Research, Computer Science & Engineering, Graphic Era University.

How to enter?

Select institutes like UPES, Graphic Era University, U. V Patel College of Engineering, Mody University, DIT University offer B.Tech CSE with specialization in Big Data Analytics/ Business Analytics. Some of them have aligned the programme with industry collaboration, mainly IBM. The eligibility for the course is 10+2 with minimum 65 percent marks.

What do you learn?

Combining CSE, the above institutes give strong foundation on Business Analytics application development. The data analytics studies comprise data analysis, data mining, machine learning and programming languages like R and Python. "The programming knowledge helps us to make the computer do the heavily lifting of computation and visualization, it opens the scope to analyze the data to the core," says Kartikay Sharma pursuing B.Tech (CSE with Big Data Analytics) from Graphic Era University. "Business Analytics is one branch where lot of practical learning is there. In addition to the theoretical concepts we learn in the lecture sessions," says Samiksha Sarraf doing B.Tech CSE+ Business Analytics & Optimization, UPES.

International competitions

Universities encourage students to take part in international competitions to hone their skills. "Facebook, Flipkart, Google, Microsoft, IBM conduct data analytics competitions which are open for a fresher. These competitions are hosted on websites like Kaggle, Hacker Earth, Top Coder, says Dr. Mittal. These competitions gives the students hands-on experience in real-time situations. "We provide a platform for our data analytics students to explore the data sets provided in these competitions as case studies," added Dr. Mittal.

Job prospects

The job profiles include Advanced Analytics and Optimization Consultants, data analytics and data manager/ scientist. Top IT players like TCS, Wipro, Infosys, Dell, Citibank regularly hire people with data analytics skills.

Salary talk

As per Analytics India magazine, the average salary of analytic professionals across the country is Rs. 9.4 lakhs per annum. A fresher can expect a salary around 4 lakhs per annum. The employer could be large IT companies that have an analytics practice, analytics KPOs, in-house analytics units of large corporates and analytics firms. The annual package of a data scientist in US ranges from $90,000 - $240,000, with an average of $120,000.

If you are a wizkid with numbers, has an analytical mind and the ability to think abstractly, you could be a right fit for the job of a data analyst.