Emerging Jobs: India

The fastest growing jobs in the country

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About this report

This report has crunched LinkedIn's unique data from the last five years to identify the top up-and-coming roles and the skills needed for each.

It looks at what roles are on the rise, where the talent has come from, and where it resides today.

We hope this report will serve as a helpful resource that talent leaders can use to:

- **Educate hiring managers and business leaders about the challenges and opportunities that exist in the Indian jobs market**
- **Reference in executive discussions to give a bird's eye view of the hiring marketplace**
- **Understand what skills to look for instead of job titles**
- **Glean insights into the nature of emerging roles and the individuals that occupy them**

How LinkedIn data reveals what's emerging

Our methodology for this report

We looked at all LinkedIn members in India who included work experience on their profile.

We then grouped together the millions of unique, user-input job titles based on common job roles. This involved clustering job titles together.

For example, our category of 'Machine Learning Engineer' includes user input titles such as 'machine learning software engineer' and 'Machine Learning Engineer II.'

We then counted the frequencies of job titles that were held in 2013 and compared the results to job titles that were held in 2017.

Our 'emerging jobs' are the top five job titles that saw the largest growth in frequency over the five-year period.

Tech becomes all-pervasive

Tech really is king when it comes to jobs in India.

This will come as little surprise as, for a generation, expatriate Indian IT workers have provided much of the know-how that's led to the success of global tech giants.

Today, however, multinationals are rushing in to establish Indian hubs. Meanwhile, as the third largest startup hub in the world, entrepreneurial Indians have created their own thriving indigenous tech industry.

It's not only tech companies that want tech people. Pharmaceutical companies, banks, insurance, retail, transport, and industrial conglomerates are all harnessing the power of technological advancements to make a big difference to their top and bottom lines.

All these companies are hungry for people skilled in the emerging roles identified in this report.

The top ten emerging jobs:

1   Machine Learning Engineer

2   Application Development Analyst

3   Back End Developer

4   Full Stack Engineer

5   Data Scientist

6   Customer Success Manager

7   Digital Marketing Specialist

8   Big Data Developer

9   Sales Recruiter

10   Python Developer

The challenges for HR and TA professionals

How do you hire for jobs that did not exist five years ago?

How do you attract and retain talent when industry lines are blurring?

How can you predict where the gaps in your workforce will be?

How do you upskill & reskill your existing workforce to rise to the challenge?

This is where LinkedIn's unique data comes in. Over **50 million** people in India, and **575 million** around the world, have a LinkedIn profile and, as they network, they create **billions of touchpoints**.

As this enormous living, breathing dataset evolves in real-time, it gives organisations a powerful source of insight as they plan the future of their workforce.

01

Key Takeaways

1 Tech jobs rule in India, but not just in tech companies

Tech roles are dominating the jobs market, but not always in ways you might expect.

In India, more and more businesses are shifting focus and resources to big data and digital products. Leaders across BFSI, manufacturing, media and entertainment, professional services, retail and consumer products, technology-software are looking at technology to drive scale, efficiency and growth. So Machine Learning Engineers and Data Scientists find themselves in massive demand.

Where are these professionals coming from? While machine learning and data scientists in the US come from academia or have a master's degree, over 50% of these professionals in India have a bachelor's degree and are trained on the job.

> " We will be using AI and emerging technologies across the Mahindra group and we are taking it very seriously. Many of our businesses generate copious amounts of data.
>
> Years of operations have resulted in huge databases and we are now aggressively embarking on optimizing this data to drive personalization for customers for business out-performance. "
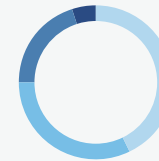
Prince Augustin
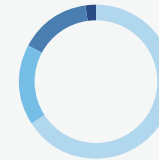Executive Vice-President (group Human Capital and Leadership Development), Mahindra and Mahindra.

Machine learning & Data Scientists US
What degrees does this talent have?

Total professionals
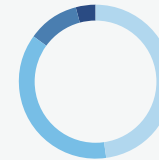- Master's Degree **43%**
- Doctorate **32%**
- Bachelor's Degree **20%**
- Other **5%**

New graduates
- Master's Degree **66%**
- Doctorate **17%**
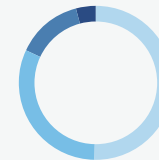- Bachelor's Degree **15%**
- Other **2%**

Machine learning & Data Scientists India
What degrees does this talent have?

Total professionals
- Bachelor's Degree **48%**
- Master's Degree **37%**
- Master of Business Administration **11%**
- Administration **4%**

New graduates
- Bachelor's Degree **51%**
- Master's Degree **32%**
- Master of Business Administration **14%**
- Others **4%**

2 Upskilling is getting more important

Think bigger by looking at skills and not just previous titles.

The top emerging jobs are all in extremely high demand, meaning there's a huge recruitment challenge ahead for HR and talent acquisitions teams.

When talent is thin on the ground, the 'perfect candidate' will be highly discerning and very expensive. HR and TA teams already know the talent market is tight, so creativity will be the key.

The shift in thinking needs to involve hiring for skills, rather than hiring for job title. In this report we've broken down the skills candidates will need for the top emerging jobs, and look at the possible previous job titles candidates may have held.

In these times of rapid change, the company that will succeed is the one that makes its workplace conducive to continuous learning. The ideal candidate for a role could already be sitting a few desks away from you. Perhaps they just need some training and a bit of belief from management to take their career to the next level.

> " We are living in a VUCA world. At the same time we are fortunate to live in very exciting times – times where rapid technological change is sweeping the world and is redefining the rules of business and value creation.
>
> This offers a unique opportunity to us to further leapfrog and scale to new heights. A critical factor to this is that all of us as torchbearers of Reliance continue to acquire, upgrade and refresh our skills knowledge and competencies. "

Hital Meswani
Executive Director
Reliance Industries Limited

Learn how India's largest private sector conglomerate, Reliance Industries, partnered with LinkedIn, to bring world class learning resources to thousands of employees across multiple businesses.

3 Rise of the Customer Success Manager (CSM)

While technology-focused jobs still top the leaderboard in India, the fact that the role of Customer Success Manager has come in at Number Six on LinkedIn's emerging jobs list shows the growing importance both tech and non-tech firms are putting on making their customers successful.

The rise of CSMs is a terrific example of how job candidates don't necessarily need to be tooled-up with hard STEM skills to be a useful part of the shift to tech happening across the economy.

As per NASSCOM,[1] SaaS is the preferred model of over 50% of Indian product companies, with cloud growing at 43%. The rise of the Customer Success Manager can be attributed to the proliferation of SaaS and subscription services in the market over the past five years.

While traditional marketing and sales roles continue to grow, it's CSMs who are seen as the new critical function to help onboard, influence, and retain customers, who are often subscribing for years at a time.

1st Customer Success Manager was the **number one** emerging role in Australia.

4th Customer Success Manager was **ranked fourth** in LinkedIn's survey of emerging jobs in the United States and it also rates highly in other industrialised economies.

ANNUAL GROWTH RATE BY INDUSTRY: CSMs IN INDIA

The table below shows the growth in the past one year:

Internet
41%

Computer networking
36%

Information technology and services
27%

0 10 20 30 40 50 60 70 80 90 100 110 120
Growth (%)

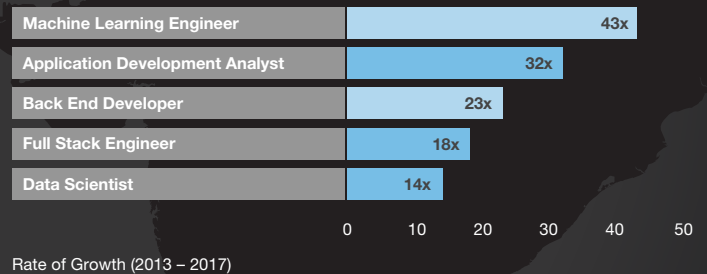[1] Nascomm: Catalyzing the Ecosystem for A Trillion Dollar Digital Economy

Deep Dive:

The top 5 emerging jobs

LinkedIn has crunched its enormous stack of data from the past five years to identify the top emerging jobs in India.

Our data shows us the career paths most people have taken into these roles, as well as the skills most commonly associated with the jobs. Identifying these leading emerging jobs gives HR and talent acquisition teams a unique insight into where the jobs market is heading.

Job	Rate of Growth
Machine Learning Engineer	43x
Application Development Analyst	32x
Back End Developer	23x
Full Stack Engineer	18x
Data Scientist	14x

Rate of Growth (2013 – 2017)

1 Machine Learning Engineer

How can companies harness the vast swathes of data they hold to be more efficient and profitable?

How can an online retailer or a subscription TV service create a unique and uncluttered experience for the individual customer, based on their past buying or watching habits? How can banks recognise patterns that might indicate fraud or money laundering?

This is where the Machine Learning Engineer comes in, using a branch of artificial intelligence to produce automated data modelling.

WHERE THEY WERE FIVE YEARS AGO

| Software Engineer | Machine Learning Engineer | System Engineer | Senior Software Engineer | Data Engineer |

We looked back at the career paths of professionals who hold these top 5 roles to get a sense for where they were in their careers 5 years ago.

2 Application Development Analyst

Using a suite of software engineering skills to develop, test, support and troubleshoot computer-based applications for internal and external clients, the Application Development Analyst is the person who keeps the show on the road.

WHERE THEY WERE FIVE YEARS AGO

Software Engineer

System Engineer

Application Development Analyst

Senior Software Engineer

Associate Software Engineer

3 Back End Developer

Behind every great website or mobile application is a successful Back End Developer. They're responsible for building the "server side" in web applications and important functions like the database.

Usually they'll work hand-in-hand with a specialist Front End Developer who will develop the experience on the "client-side".

WHERE THEY WERE FIVE YEARS AGO

Back End Developer	Software Engineer	Student	Web Developer	Senior Software Engineer

4 Full Stack Engineer

A combination of Front and Back End web and application development, Full Stack Engineers are the Swiss Army knives of tech talent – able to run a project from start to finish.

As well as building the "server-side" functions of a website, they have to make it user friendly in the "client-side" as well, their versatility means they are in hot demand across a huge swathe of industries looking to add tech capacity as efficiently as possible.

WHERE THEY WERE FIVE YEARS AGO

Software Engineer

Senior Software Engineer

Web Developer

Student

PHP Developer

5 Data Scientist

These days business is driven by data. Whether it's financial insights or understanding customer behaviour, people who can make sense of the enormous quantity of data being generated by modern organisations are in high demand.

The promise of engaging work and the scope to drill down into interesting data are draw-cards for the curious and intelligent candidates data science tends to produce.

WHERE THEY WERE FIVE YEARS AGO

Data Scientist | Software Engineer | Business Analyst | Senior Software Engineer | Senior Business Analyst

03

Demand Intensity in India

Where the jobs are

So now that we've established the top 5 emerging jobs in India, the question is where do you find these people?

LinkedIn has crunched the numbers looking at the availability of these in-demand roles in the nation's major centres.
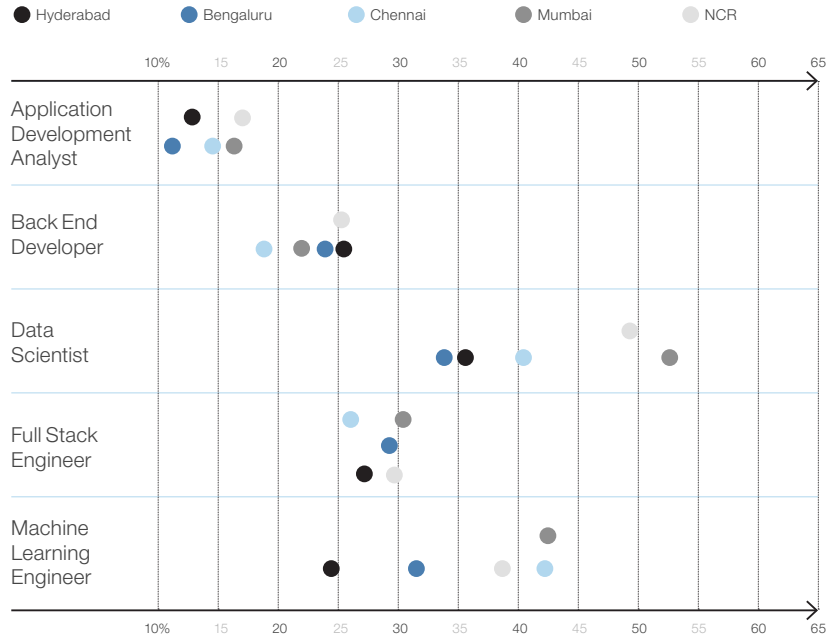
The graph opposite shows you the demand intensity for the top 5 jobs in the different cities.

Demand intensity = Demand for the role based on hiring activity / number of professionals with that title. Competition for that talent pool increases as you move from left to right in the graph.

Demand Intensity: Top Indian Regions

● Hyderabad   ● Bengaluru   ● Chennai   ● Mumbai   ● NCR

Demand Intensity % (Demand for the role based on hiring activity / number of professionals currently with that title in India).

Case Study: Novartis India

How talent data helped Novartis choose a strategic location for its new office.

For months, Novartis debated internally whether its new India office should be in Mumbai or Bangalore, as each city had strategic appeal.

By leveraging insights from LinkedIn, the recruiting team was able to compare each city's talent pool on factors such as mobility and employers.

Career level was also a key point of comparison, as Novatis successfully recruits most employees at mid-career. In the talent report, Mumbai was the clear winner over Bangalore with its much larger population of mid-career talent.

Once the data was shared with all stakeholders, it only took three weeks to reach consensus on Mumbai.

THE IMPACT

Faster decision-making
Time is money, and like most companies Novartis is constantly trying to move faster. So to rely solely on its ATS and application flow to choose an office location would not have been practical, and would have taken too long. The talent pool reports accelerated the company's ability to get alignment and take action.

Access to passive talent
The report also exposed Novartis to new pools of talent. To meet its demand for clinical talent, for example, the team had to look beyond pharma. Talent pool reports highlight the best alternate industries and companies to target, such as healthcare or insurance.

Ability to educate the business
Novartis has an internal team that does talent mapping, but to get a very detailed view of the full picture, the third-party data helps. Especially when the hiring team is from different parts of the world, it's a good way to communicate the local landscape.

> "We knew Mumbai had a good population and Bangalore had a good population, but without more insight into their differences in talent, it was hard to make a decision. But once the data came in, it was rather easy."

Priyanka Thatoi
Assistant Manager
Leadership & Campus Hiring
Novartis

04

Skills over job titles

As the blurring and melding of specialist roles picks up pace, the key to attracting the best people will be to focus on a recruit's skills rather than their previous job titles.

As one leading Data Scientist told LinkedIn, his job title didn't exist when he was at university less than five years ago. People in his area of expertise were described as being into "analytics or machine learning studies".

Is your company prepared to invest in further training-in-house or external? Could your next Machine Learning Engineer already be working for the firm as a Software Engineer?

Will that young graduate from the best university with the right "cookie-cutter" CV actually add to the workplace culture?

Or will an existing employee, with the soft skill to engage with clients and understand their needs, be more suited to the role? Can they be taught the technical skills they need?

In these times of rapid change HR and talent acquisition, professionals need to keep it simple. The emphasis should be on looking for employees with transferable skills which enable them to adapt to changing workforce demands.

Career paths should be looked at in terms of skills the worker gained and how they developed, instead of just noting a checklist of job titles. HR and TA would benefit from looking for aptitudes such as adaptability, resilience, and entrepreneurial skills.

Top skills for the top 5 emerging jobs

MACHINE LEARNING ENGINEER

- Python
- Algorithms
- Data science
- Artificial intelligence
- Deep learning
- Analytics
- Data mining
- Nosql
- Big data
- Natural language processing
- Hadoop

APPLICATION DEVELOPMENT ANALYST

- Software development
- Isas
- Programming
- Salesforce.com
- Business analysis
- SAP products
- Application support
- Maintenance & repair
- Accounts payable
- TM1
- Java
- Research and development (R&D)
- SAP ERP
- ABAP

BACK END DEVELOPER

- Back-end web development
- Web development
- Java
- Node.js
- Mongodb
- Back-end
- Software development
- Python
- Javascript
- MySQL
- Start-ups
- Ruby on rails

FULL STACK ENGINEER

- Node.js
- Stack
- Java
- AngularJS
- Ruby on rails
- Javascript
- Html5
- MongoDB
- Python
- Jquery
- Django
- React.js
- Back-end web development

DATA SCIENTIST

- Data science
- Machine learning
- Analytics
- Data mining
- Big data
- Hadoop
- Python
- R
- Management
- Statistical modeling
- Matlab
- Statistics
- Predictive modeling

Case Study: Myntra

How are companies winning the talent war for emerging jobs?

With Machine Learning Engineers, Data Scientists etc. becoming critical across industries, companies are constantly trying to nurture and expand these talent pools.

Myntra, India's leading e-commerce company, has always taken a pro-active approach to hiring and creating talent pipelines for key skills. They used LinkedIn pipeline builder to take their value proposition to relevant candidates and captured interest for open job opportunities.

PIPELINE BUILDER CAMPAIGN

Target audience:
India, Singapore, UK

Skills:
Data Science, UX/UI Design,
Product Management

Metrics:
- Total leads: 1416 leads
- Landing page view to lead conversion: 35%
- Number of leads that had not previously engaged with Jobs: 68%
- Campaign duration: 60 days

"Pipeline Builder Page is a great way to target, attract, capture, engage and manage talent leads that matter the most to our current and upcoming hiring needs!"

Amit Mathur
Sr. Director
Human Capital &
Head of Talent Acquisition
Myntra & Jabong

KNOW MORE: WHAT'S A PIPELINE BUILDER?

It helps your company build a talent pipeline on LinkedIn by reaching the talent you need to hire, engaging them with rich messaging about your company and open job opportunities, and giving them the opportunity to express interest.

It's a self-serve tool, giving you the flexibility to create and edit landing pages. Admins can also monitor the number of landing page views and interested leads.

Case Study: The AI Academy: How LinkedIn is scaling AI [2]

While the increase in computing resources is helping take AI mainstream, universities are not producing people with expertise at the same pace. To address this problem, LinkedIn has created the AI academy.

The goal of this program is to equip employees across the company – in areas like engineering, product management, etc. – with the knowledge they need to optimally deliver impactful AI experiences to our members.

The AI Academy consists of different courses for different job roles and business needs. Engineers, for example, take a course called AI200, "Building an AI Product from End-to-End." This consists of

five one-day-per-week deep-dive classes, and a subsequent, one-month apprenticeship with the core AI team that takes participants from understanding how to incorporate and maintain an AI system to shipping one for their team.

For product managers and company executives, there is a one-day, deep-dive course that focuses on the specific domain knowledge that they'll need to manage AI products.

After completing those courses, participants better understand one of the hardest problems in applied AI: knowing which problems are solvable via AI and which ones aren't.

Beyond these use cases, we envision extending the program to employees that work with populations who use AI, such as sales people who work with technology clients and recruiters who work with LinkedIn Engineering.

> For us, success with the AI Academy looks like every engineer, product manager, and other employee at LinkedIn knowing the optimal amount about AI for their job.

> "We want AI and machine learning to be a part of every single product feature we develop. The supply and demand in this area is highly imbalanced. Our training is not focused on teaching them deep theoretical aspects of machine learning. For that, we recommend they take some courses outside and we support their effort.
>
> In the AI academy, we want to equip our software engineers more via a vocational training program where they can learn how to deploy end-to-end machine learning into production."

Deepak Agarwal
Global Head of AI at LinkedIn

[2] LinkedIn: The AI Academy: How We're Scaling AI Across LinkedIn
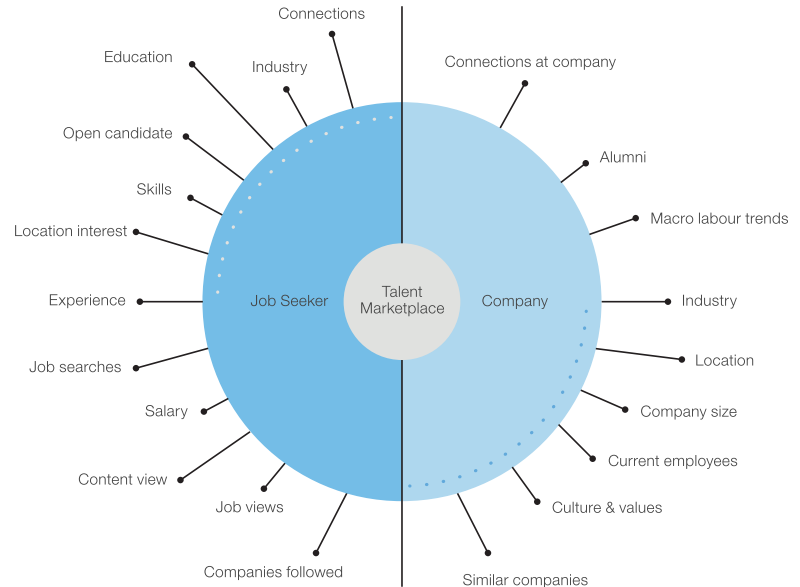
05

Talent Intelligence

LinkedIn's vision is to create economic opportunity for every member of the global workforce. Executing on that vision begins with mapping the digital economy – or creating the world's first economic graph.

LinkedIn's Economic Graph is a digital representation of the global economy based on data generated from 575 million members, 50,000 skills, 26 million companies, more than 15 million open jobs, and 60,000 educational institutions. LinkedIn has created the world's largest talent marketplace where candidates and companies are interacting every single day. While 10 years ago we had a relatively small collection of profiles and some engagement, we now have a robust community where billions of interactions are taking place every day.

The insights generated from these billions of interactions can enable today's HR leaders to answer some of the most deep and complex questions raised by the CEO and senior business leaders.

This ammunition adds a data-driven foundation to your point of view, your experience, and your decisions. It can enable your team to marry their instincts with these insights to make the right decisions or elevate their position in the organisation, while also ensuring people are a competitive advantage for the business. In the next few pages, find out how organisations can use insights from LinkedIn to answer critical questions across the employee lifecycle.

LinkedIn has created the world's largest talent marketplace where candidates and companies interact every day.

Talent Marketplace

Job Seeker — Connections, Education, Industry, Open candidate, Skills, Location interest, Experience, Job searches, Salary, Content view, Job views, Companies followed

Company — Connections at company, Alumni, Macro labour trends, Industry, Location, Company size, Current employees, Culture & values, Similar companies

Final thoughts for HR and TA teams

1

MAP THE MARKET

Study talent pools for fast growing roles: migration flows, candidate drivers, career paths, etc., and your engagement with this pool versus competition.

With technology enabling all industries, skills are now transferable.

Find out more about the rise of data and analytics in HR here.

2

BUILD A TALENT PIPELINE

Take a pro-active approach to talent management. Build a pipeline of relevant external candidates and nurture them via online and offline actitivites.

Groom internal employees for skills and jobs of the future via cutting edge always-on learning initiatives.

3

GET READY TO COMPETE

It's about supply and demand, know your unique differentiators, preferably by job group and articulate consistently through your employer brand.

Rally your leadership teams, HR teams and employees to spread the word.

About LinkedIn's Economic Graph

LinkedIn's Economic Graph is a digital representation of the global economy based on data generated from 575 million members, 50,000 skills, 26 million companies, more than 15 million open jobs, and 60,000 educational institutions. In short: it's all the data on LinkedIn.

Through mapping every member, company, job and school, we're able to spot trends like talent migration, hiring rates and in-demand skills by region. These insights help us connect people to economic opportunity in new ways. By partnering with governments and organisations around the world we help them better connect people to opportunities.

See full article

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575M MEMBERS

50K SKILLS

26M COMPANIES

15M OPEN JOBS

60K EDUCATIONAL INSTITUTIONS

Contact us

LinkedIn's data and insights can help you make critical talent decisions enabling you to build great teams and make people your competitive advantage.

This is Talent Intelligence.
[Find out more.](#)