

DATA SCIENCE & ML

in

BANKING, FINANCE AND INSURANCE (BFSI)

DOMAIN

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DATA SCIENCE



What is DS & ML in the BFSI?

Data science and machine learning in the banking domain refer to the application of advanced analytical techniques and algorithms to extract insights, and automate processes within the banking industry. These technologies drive efficiency, profitability, and security in the banking sector, transforming the way financial institutions operate.

Uses of data science and machine learning in BFSI Domain



Fraud prevention

Machine learning detects security risks and potential fraud by analyzing data and customer behavior in real-time, tailoring its approach to each customer.



Anomaly detection

AI technology tracks transaction factors and patterns to combat financial crimes like money laundering, enhancing fraud detection efficiency.



Onboarding and document processing

Machine learning reduces the time and resources required for document classification and organizations, improving back office tasks.



Gunjan Bhadani
Data Analyst

From

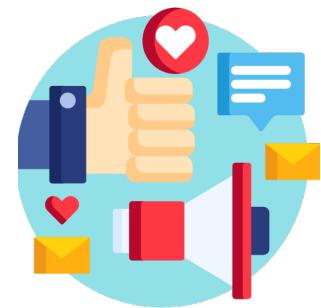
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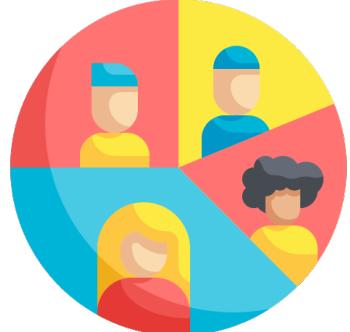
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Customized marketing

Data science enables personalized marketing by analyzing customer information and offering personalized product and services, leading to increased sales and customer satisfaction.



Customer segmentation

Data science techniques like logistic regression and decision trees are used to segment customers based on behavior, demographic, for targeted marketing products and services.



Real-time and predictive analysis

banks utilize data science for real-time insights and predictive analysis to form strategic decisions



Mohit Agrawal
Data Scientist at EY

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Credit scoring

Machine learning analyzes data points and behavior patterns to generate personalized offers and evaluate borrowers, without bias.



Customer lifetime value prediction

banks utilize data science to estimate value of customer relationships over time to improve profitability and resource allocation.

Data Science & Machine Learning

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Full Stack Data Science (AI & ML)

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DSA with System Design

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Full Stack with MERN

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Benefits of DS/ML in BFSI

DS/ML systems are used by banks for a variety of reasons. The following are the most prevalent benefits of DS/ ML for Banking sector:

- ▶ Personalized offers
- ▶ Improved investment evaluation
- ▶ Improved lean and credit decisioning
- ▶ Reduced operational costs and risks
- ▶ Fraud detection and compliance



Garima Gupta
Business Analyst at
ClearCapital

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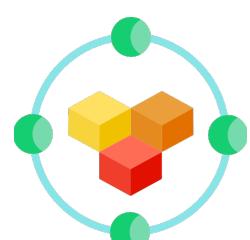
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DATA ANALYTICS TOOLS FOR BFSI



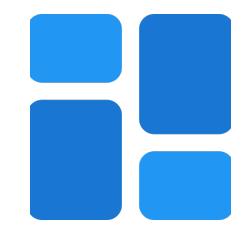
Modeling

R, SAS, and Python are popular tools in banking for modeling. R and Python are now widely used, with specialized packages available for banking analysis.



Optimization

Excel is commonly used for optimization purposes, but R and Python boast impressive optimization packages.



Visualization & Dashboarding Tools

Tools such as Spotfire, PowerBI, QlikView, Tableau, & SAS Visual Analytics, CXO have made a substantial impact in the BFSI domain.

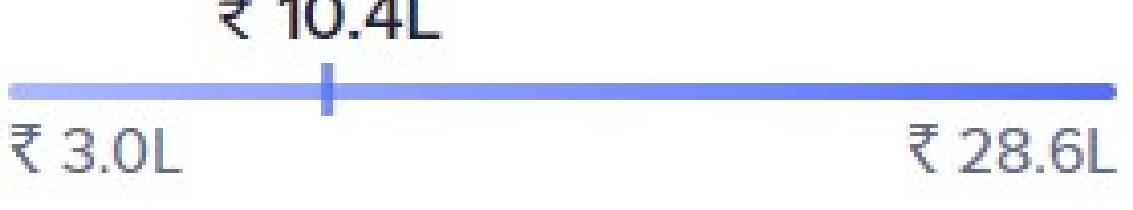
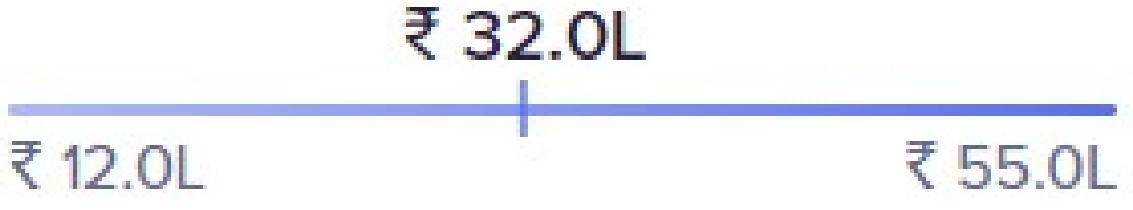


Segmentation

SAS E miner is a well-known, pricey tool for segmentation. Alternatively, Knowledge Seeker, & Knowledge Studio present more budget friendly options.



Data Scientist Salary Trends In BFSI Sector

Company Name	Average Annual Salary
 IBM Data Scientist Salary 1-9 yrs exp (186 Salaries)	₹ 16.1L  ₹ 4.2L ₹ 33.0L
 HCLTech Data Scientist Salary 1-10 yrs exp (109 Salaries)	₹ 10.4L  ₹ 3.0L ₹ 28.6L
 American Express Data Scientist Salary 0-6 yrs exp (91 Salaries)	₹ 18.3L  ₹ 7.8L ₹ 30.0L
 JP Morgan Chase Data Scientist Salary 2-11 yrs exp (73 Salaries)	₹ 20.8L  ₹ 11.0L ₹ 38.0L
 HSBC Group Data Scientist Salary 1-8 yrs exp (72 Salaries)	₹ 13.3L  ₹ 5.7L ₹ 25.0L
 PayPal Data Scientist Salary 3-8 yrs exp (60 Salaries)	₹ 32.0L  ₹ 12.0L ₹ 55.0L

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