



Meritshot

Data Science Program with Machine Learning Specialisation

Master the skill of data-driven intelligence with Meritshot's 360°
Career Assistance & ML focused curriculum for Job Switch

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The Future Belongs to Data-Driven Professionals

Data is no longer a byproduct, it's the currency of the digital economy. From financial forecasting and fraud detection to precision medicine and personalized shopping, machine learning is the engine driving business innovation.

Global Demand:

- By 2028, the data science & AI industry is projected to grow by \$300+ billion, with organizations across BFSI, healthcare, e-commerce, and technology investing heavily in data-first strategies.
- Roles like Data Scientist, ML Engineer, and AI Specialist are already among the top 10 highest-paying jobs worldwide.

Industry Shift:

- Traditional analytics is no longer enough. Organizations now require predictive and prescriptive insights powered by ML.
- Businesses are embedding AI into every workflow: forecasting sales, detecting anomalies, personalizing customer journeys, and even automating decisions.

Your Advantage:

- Traditional analytics is no longer enough. Organizations now require predictive and prescriptive insights powered by ML.
- Businesses are embedding AI into every workflow: forecasting sales, detecting anomalies, personalizing customer journeys, and even automating decisions.

Build the Data Science & ML Skills That Industry Needs

Our specialization program is designed in collaboration with industry practitioners to cover the entire data science lifecycle — making you not just a coder, but a problem solver and decision enabler.

What You'll Master:

Data Foundations	Python, SQL, data cleaning, data wrangling, exploratory data analysis (EDA).
Statistics for Data Science	Hypothesis testing, probability, regression, and advanced statistical inference.
Core Machine Learning	Linear & logistic regression, decision trees, ensemble methods (Random Forest, XGBoost), clustering, PCA, and recommendation systems.
Deep Learning & AI	Neural networks, CNNs, RNNs, Transformers, and an introduction to Generative AI applications.
Big Data & Cloud ML	Hands-on with AWS/GCP/Azure for scalable model deployment and MLOps pipelines.
Domain-Focused Applications	Finance (risk modeling, stock prediction), Retail (recommendation engines), Healthcare (disease prediction), and more.

Why This Matters:

Top companies don't just want professionals who "know ML." They want people who can:

- Translate business questions into ML problems.
- Build, tune, and deploy models at scale.
- Communicate insights to stakeholders and decision-makers.

This program ensures you graduate with both technical mastery and business context, a rare combination that recruiters actively seek.

Real Stories, Real Impacts

Empowering Ambitions with Real World Learnings

Raghav Mehta

4 yrs exp. | Mechanical Engineer → Data Scientist, Tata Digital

From mechanical engineering to machine learning, Meritshot gave me the structured pathway I needed. I mastered Python, stats, and ML through real-world projects like predictive maintenance and retail segmentation. Mentorship and mock interviews built my confidence. Today, at Tata Digital, I optimize customer engagement using ML — with an 85% salary jump.

Sneha Iyer

3 yrs exp. | Business Operations → Data Scientist, Swiggy

From operations to data science, Meritshot made analytics accessible. I learned SQL, Python, ML, and A/B testing, and built a delivery-time prediction model that became my Swiggy interview highlight. Now, I optimize last-mile delivery with ML. Just a year ago, I couldn't even write a loop — today, I drive impact at scale.

Kunal Bhasin

5 yrs exp. | IT Support → Data Scientist, Flipkart

I moved from IT troubleshooting to data strategy with Meritshot's structured program. Weekly coding sprints, mentorship, and resume support gave me the push I needed. My recommendation system project became my portfolio centerpiece. Now, at Flipkart, I build data-driven solutions and earn double my earlier salary.

Ananya Ghosh

3 yrs exp. | MBA (Marketing) → Data Scientist, Nykaa

Even with an MBA, I felt dependent on analytics teams. Meritshot gave me Python, regression, and storytelling skills to own the data. My LTV prediction project landed me at Nykaa, where I now build models for retention and present insights directly to leadership. From support to strategy — that's my journey.

Real Stories, Real Impacts

Empowering Ambitions with Real World Learnings

Devang Patel

2 yrs exp. | Chemical Engineer → Data Analyst, IBM

Meritshot turned my analytical mindset into a career in data. From SQL to model tuning, I learned hands-on through case studies like telecom churn analysis. Mentors helped me reframe my background as a strength. Today, I work at IBM on energy efficiency modeling, bridging my chemical and data worlds.

Priya Nair

4 yrs exp. | Teacher → Data Scientist, BYJU'S

From teaching to tech, Meritshot made the impossible possible. I learned Python, stats, and ML step by step with patient mentorship. My student performance prediction project helped me land BYJU'S, where I now use analytics to improve learning outcomes. It's a surreal but empowering transformation.

Abhishek Jain

6 yrs exp. | Business Consultant → Data Scientist, Infosys

As a consultant, I had business knowledge but lacked technical depth. Meritshot bridged that gap with SQL, ensemble models, and forecasting. My FMCG demand prediction project boosted my confidence and portfolio. Now at Infosys, I drive global consulting projects with real data science expertise.

Reema Sharma

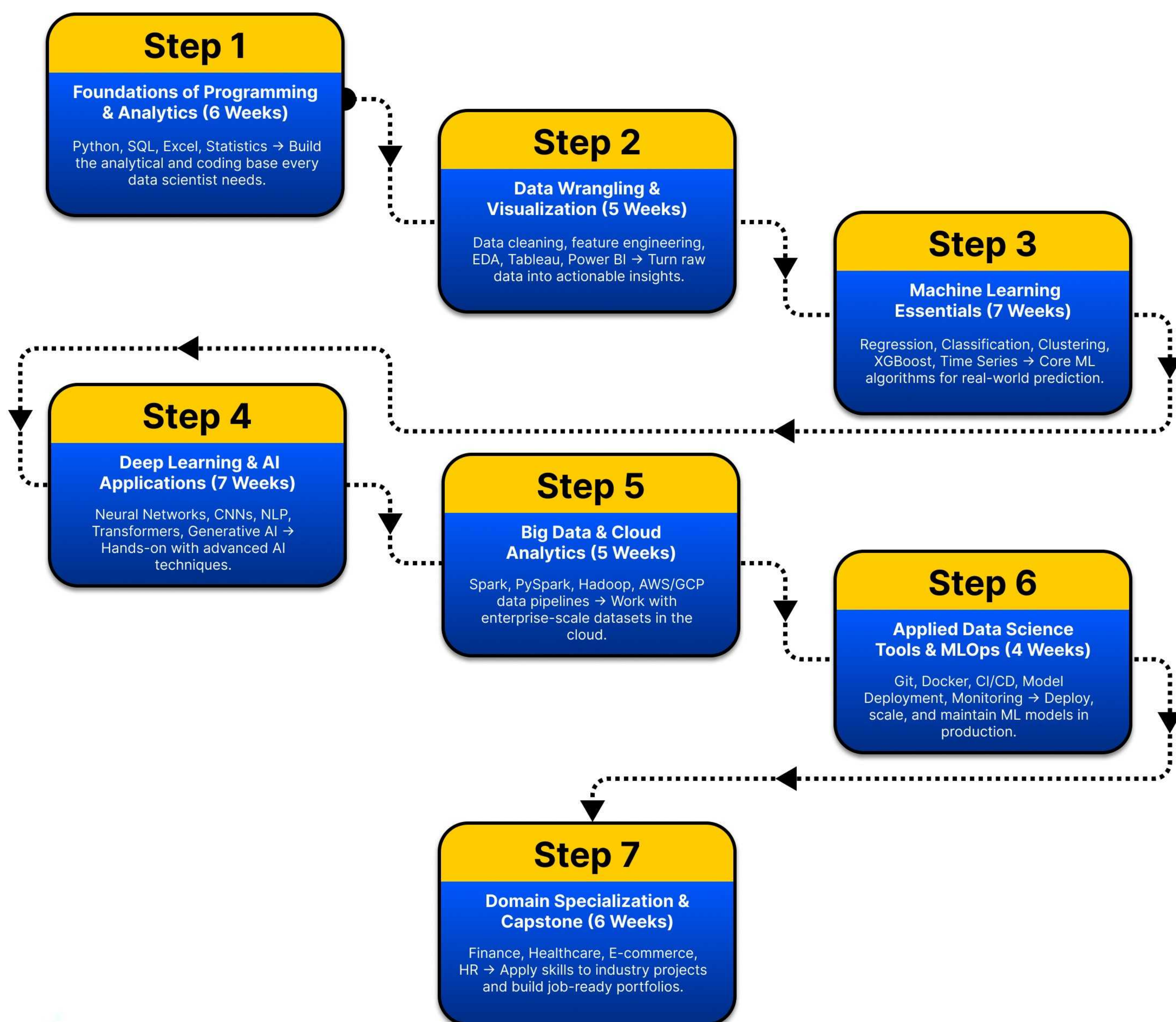
2 yrs exp. | Graphic Designer → Data Scientist, Meesho

From design to data, Meritshot taught me how to think analytically. I learned Python, ML, and dashboarding, blending my creative skills with analytics. My fashion image classification project clicked with Meesho, landing me a role as a data scientist. Today, I combine design + ML to improve product tagging and search.

Curriculum Roadmap

Data Science with Machine Learning Specialization

Top product-based companies and global enterprises demand more than just theoretical knowledge — they expect hands-on problem solvers who can turn raw data into actionable intelligence using modern AI-powered tools.



End Goal: Become a Machine Learning-powered Data Scientist with enterprise skills, industry projects, and deployment-ready expertise.

Module 1

Foundations of Programming & Analytics (6 Weeks)

Overview:

This module sets the groundwork. You'll master the core programming, statistics, and analytical tools that every Data Scientist must know.

Detailed Topics:

Python for Data Science

- Data structures (lists, tuples, dictionaries, sets).
- Control flow: conditionals, loops, iterators.
- Functions, error & exception handling.
- Object-Oriented Programming: classes, inheritance, encapsulation, polymorphism.
- File handling (CSV, JSON, XML).
- Libraries: NumPy (matrix operations, broadcasting), Pandas (dataframes, merges, groupby, time-series).

SQL & Database Management

- Writing queries: SELECT, INSERT, UPDATE, DELETE.
- Joins (inner, outer, self, cross), subqueries, CTEs.
- Advanced SQL: Window functions, ranking, partitions.
- Transactions, indexing, and query optimization.
- Schema design & database normalization.

Module 1

Foundations of Programming & Analytics (6 Weeks)

Overview:

This module sets the groundwork. You'll master the core programming, statistics, and analytical tools that every Data Scientist must know.

Detailed Topics:

Excel for Analytics

- Data cleaning & transformation with advanced formulas.
- Lookup functions: VLOOKUP, HLOOKUP, INDEX-MATCH.
- Pivot tables, pivot charts, slicers for interactivity.
- Scenario analysis: Goal Seek, Solver, What-If analysis.
- Financial/statistical functions (NPV, IRR, regression).
- Dashboard building for reporting KPIs.

Statistics & Probability for Data Science

- Descriptive statistics: mean, median, mode, variance, standard deviation.
- Probability distributions: Normal, Binomial, Poisson, Exponential.
- Hypothesis testing: t-test, z-test, chi-square, ANOVA.
- Sampling techniques & central limit theorem.
- Correlation vs. causation, covariance.

Module 2

Data Wrangling & Visualization (5 Weeks)

Overview:

Learn to handle real-world messy data, preprocess it, and make it business-ready.

Detailed Topics:

Data Preprocessing & Feature Engineering

- Identifying and handling missing data (drop, impute, interpolation).
- Outlier detection (Z-score, IQR, boxplots).
- Encoding categorical variables (Label Encoding, One-hot, Frequency Encoding, Target Encoding).
- Feature scaling (Standardization, Normalization, Robust Scaling).
- Date/time feature extraction (seasonality, lags, rolling features).
- Feature selection methods (Variance threshold, Chi-square, Mutual Information).

Exploratory Data Analysis (EDA)

- Summarizing datasets (distributions, correlations).
- Detecting anomalies & trends.
- Multivariate analysis (pairplots, correlation heatmaps).
- Business-driven EDA (customer churn, sales growth, etc.).

Visualization Tools

- Python: Matplotlib (line/bar/scatter plots), Seaborn (heatmaps, violin plots, regression plots).
- Plotly: interactive dashboards, geo-plots, 3D visualization.
- BI Tools: Tableau & Power BI – connecting to multiple data sources, blending, advanced dashboards, storytelling with data.

Module 3

Machine Learning Essentials (7 Weeks)

Overview:

Dive into ML algorithms used by analysts and data scientists globally.

Detailed Topics:

Supervised Learning (Prediction & Classification)

- Linear Regression, Polynomial Regression.
- Logistic Regression for classification.
- Decision Trees, Random Forests, Gradient Boosting (XGBoost, LightGBM, CatBoost).
- Regularization methods: Ridge, Lasso, ElasticNet.

Unsupervised Learning (Clustering & Segmentation)

- K-Means, Hierarchical Clustering, DBSCAN.
- Evaluation metrics: Silhouette Score, Davies-Bouldin Index.
- Dimensionality Reduction: PCA, LDA, t-SNE, UMAP.

Model Evaluation & Optimization

- Cross-validation (k-fold, stratified).
- Metrics: accuracy, precision, recall, F1 score, ROC-AUC.
- Bias-variance tradeoff, overfitting vs underfitting.
- Hyperparameter tuning: GridSearchCV, RandomizedSearchCV.

Specialized ML Applications

- Time Series: ARIMA, SARIMA, Holt-Winters, Prophet.
- Recommender Systems: Collaborative filtering, Content-based, Hybrid recommenders.

Module 4

Big Data & Cloud Analytics (5 Weeks)

Overview:

Work on handling huge datasets with distributed frameworks and cloud-native platforms.

Detailed Topics:

Big Data Frameworks

- Hadoop ecosystem (HDFS, MapReduce).
- Spark architecture & programming.
- PySpark: RDDs, DataFrames, SparkSQL, MLlib basics.

NoSQL & Semi-Structured Data

- MongoDB: CRUD operations, aggregation framework.
- Cassandra: key-value storage, scalability.
- Handling JSON, XML, and Parquet formats.

Cloud Analytics

- AWS: S3, Redshift, Glue, Athena.
- GCP: BigQuery, Dataflow, Dataproc.
- Azure: Data Factory, Synapse Analytics.
- Building ETL pipelines: batch vs real-time streaming.

Module 5

Deep Learning & AI Applications (7 Weeks)

Overview:

Get hands-on with neural networks, computer vision, NLP, and Generative AI.

Detailed Topics:

Neural Networks Fundamentals

- Perceptrons, Multi-Layer Networks.
- Activation functions (ReLU, Sigmoid, Tanh, Softmax).
- Loss functions: MSE, Cross-Entropy.
- Backpropagation & optimization algorithms (SGD, Adam, RMSProp).

Computer Vision (CV)

- CNN architectures: LeNet, AlexNet, VGG, ResNet.
- Image preprocessing (augmentation, normalization).
- Object detection (YOLO basics).
- Transfer Learning with pre-trained models.

Module 5

Deep Learning & AI Applications (7 Weeks)

Overview:

Get hands-on with neural networks, computer vision, NLP, and Generative AI.

Detailed Topics:

Natural Language Processing (NLP)

- Text preprocessing (tokenization, stemming, lemmatization, stopword removal).
- Embeddings: TF-IDF, Word2Vec, GloVe, FastText.
- Transformers: BERT, GPT basics.
- Applications: Sentiment analysis, chatbots, document classification.

Generative AI

- Autoencoders & Variational Autoencoders (VAE).
- Generative Adversarial Networks (GANs).
- LLMs & Prompt Engineering.
- Applied use cases: content generation, recommendation, anomaly detection.

Module 6

Applied Data Science Tools & MLOps (4 Weeks)

Overview:

Learn how to collaborate in teams and deploy ML in production.

Detailed Topics:

Collaboration & Version Control

- Git & GitHub: repositories, branching, pull requests.
- Jira & Trello: task management, sprint planning.

MLOps Foundations

- Deploying ML models using Flask APIs.
- Docker & Kubernetes for containerized deployments.
- CI/CD pipelines with GitHub Actions, Jenkins.
- Monitoring models, handling model drift, automated retraining.

AI Productivity Tools

- ChatGPT, Bard, and AI assistants for prototyping.
- Automating SQL queries & Python scripts with AI.

Module 7

Applied Data Science Tools & MLOps (4 Weeks)

Overview:

Specialize in a domain of your choice and build your industry portfolio.

Detailed Topics:

Domain Tracks (Choose One)

- **Banking & Finance:** Fraud detection, credit scoring, churn modeling, stock prediction.
- **E-Commerce & Marketing:** Recommendation engines, customer lifetime value, campaign analysis.
- **Healthcare & Pharma:** Patient diagnosis prediction, medical imaging, drug sales forecasting.
- **HR & Operations:** Attrition modeling, workforce optimization, productivity analysis.

Capstone Project

- End-to-end ML project (data collection → preprocessing → modeling → deployment).
- Use cases aligned with real-world industry demand.

Module 7**Applied Data Science Tools & MLOps (4 Weeks)**

Specialize in a domain of your choice and build your industry portfolio.

Detailed Topics:**Career Sprint:**

- Resume & LinkedIn optimization.
- Mock interviews (technical & HR).
- Access to 400+ hiring partners.

Languages and Tools

Capstone & Real-World Projects

Work on flagship projects that mirror real industry use-cases across Finance, Healthcare, E-commerce, HR, and more. Each project is designed to make you deal-ready with hands-on exposure to end-to-end ML workflows.

Domain Specialization Projects



Banking, Finance & Insurance

- **Churn Prediction Model** → Predict which customers are at risk of leaving a bank and design retention strategies.
- **Fraud Detection System** → Build anomaly detection pipelines using supervised & unsupervised learning for secure transactions.
- **Risk-Reward Analysis** → Apply statistical and ML models to balance risk & maximize portfolio returns.
- **Stock Market Forecasting** → Use time-series forecasting (ARIMA, Prophet, LSTMs) to predict stock movements.



Healthcare & Pharma

- **Patient Risk Prediction** → Predict chronic diseases or readmission likelihood using structured health data.
- **Medical Image Classification** → Apply CNNs to classify X-rays, MRIs, and CT scans.
- **Pharma Sales Forecasting** → Predict future demand for drugs using time-series models.
- **Provider Analytics** → Optimize hospital resource allocation using predictive modeling.



E-commerce & Marketing

- **Customer Lifetime Value (CLV) Analysis** → Segment and forecast high-value customers to optimize targeting.
- **Ad Campaign Effectiveness** → Analyze digital campaign data and measure ROI with ML-driven attribution models.
- **Recommendation Engine** → Build ML-based product recommenders using collaborative filtering & deep learning.
- **Dynamic Pricing Model** → Implement demand-based AI-driven pricing that adapts in real time.



Human Resources & Operations

- **Attrition Analysis** → Predict employee churn and identify retention drivers using HR
- **Promotion Prediction Model** → Forecast career progression and promotion likelihood.
- **Workforce Productivity Analysis** → Track performance data and build efficiency models.
- **Resource Optimization** → Predict staffing needs to balance cost vs. productivity.

Capstone Projects

(End-to-End Deployments)

Large-scale projects integrating ML, MLOps, and business strategy.



End-to-End ML Pipeline Deployment

Deploy an ML model on AWS/GCP using Flask/Django APIs, Docker, and CI/CD pipelines.



Market Basket Analysis for E-commerce

Use Apriori/FP-Growth to recommend cross-sell & upsell strategies.



Automated Model Optimization

Apply hyperparameter tuning, stacking & ensembling on real-world datasets.



Customer Behavior Dashboard

Create BI dashboards with Power BI/Tableau that integrate with predictive ML outputs.

Industry Case Studies

Solve case studies inspired by top tech & business challenges.



Climate & Food Supply Chain → Predict crop yields & food security risks using ML.



Google Ads Keyword Analysis → Use NLP to optimize keywords and improve ad performance.



Quora Insincere Question Detection → Build NLP models to detect spam & harmful content.



Cab Trip Duration Prediction → Predict trip times for ridesharing companies to optimize pricing.



Dynamic Product Pricing → Apply regression & ML forecasting to set real-time online prices.



Demand Forecasting for E-commerce → Forecast sales to improve inventory & supply chain planning.



Customer Recommendation System → Personalized recommender (Netflix/Amazon-style).



Traffic Sign Recognition (CNN) → Train computer vision models for self-driving applications.

Defining Your Outcomes

Outcome-driven learning that transforms you into a Data Science & Machine Learning professional—equipped with the tools, techniques, and business acumen to solve real-world problems and accelerate your career in the AI-driven economy.

AI & ML Mastery

- Develop expertise in supervised, unsupervised, and advanced ML algorithms—from regression and decision trees to ensemble methods and gradient boosting. Build, tune, and evaluate ML models that drive business-critical predictions in finance, healthcare, e-commerce, and beyond.

Deep Learning & Generative AI Specialist

- Master the fundamentals of neural networks, CNNs, RNNs, and Transformers to tackle complex problems in computer vision and NLP. Gain early-mover advantage in Generative AI with GANs, autoencoders, and prompt engineering for large language models (LLMs).

Data Wrangling & Visualization Expert

- Learn to transform raw, messy data into structured insights. From SQL and Python (Pandas, NumPy) to Tableau, Power BI, and Plotly, you'll master EDA, dashboards, and KPI-driven reports that translate data into business-ready stories.

Defining Your Outcomes

Outcome-driven learning that transforms you into a Data Science & Machine Learning professional—equipped with the tools, techniques, and business acumen to solve real-world problems and accelerate your career in the AI-driven economy.

Big Data & Cloud Analytics Practitioner

- Work with enterprise-scale data using PySpark, Hadoop, and NoSQL databases. Deploy end-to-end ML pipelines on AWS/GCP cloud platforms and gain the ability to analyze and manage large, unstructured datasets in real time.

MLOps & Deployment Leader

- Go beyond building models—deploy them into production with Flask, Docker, and CI/CD pipelines. Learn monitoring, model drift detection, and best practices in MLOps, so your skills directly align with how data science teams operate in top companies.

Domain-Ready Specialist

- Customize your learning journey with domain tracks (Finance, E-commerce, Healthcare, HR). Solve industry-driven projects like fraud detection, churn analysis, patient risk prediction, and workforce optimization—making you career-ready from day one.

Portfolio & Career Acceleration

- Graduate with a portfolio of real-world projects, capstone case studies, and end-to-end ML deployments. Learn resume branding, LinkedIn optimization, and mock interview preparation with industry mentors to fast-track your entry into high-growth DSML roles.

Defining Your Outcomes

Outcome-driven learning that transforms you into a Data Science & Machine Learning professional—equipped with the tools, techniques, and business acumen to solve real-world problems and accelerate your career in the AI-driven economy.

Where You'll Go

- Data Scientist / Machine Learning Engineer
- Business Intelligence Analyst
- AI/Deep Learning Engineer
- Data Analyst / Data Engineer
- NLP / Computer Vision Specialist
- MLOps Engineer
- Applied Scientist in Finance, Healthcare, or E-commerce

Career Advantage



28%+

Annual Growth
in demand for data science
professionals (2024–2028).



90%+

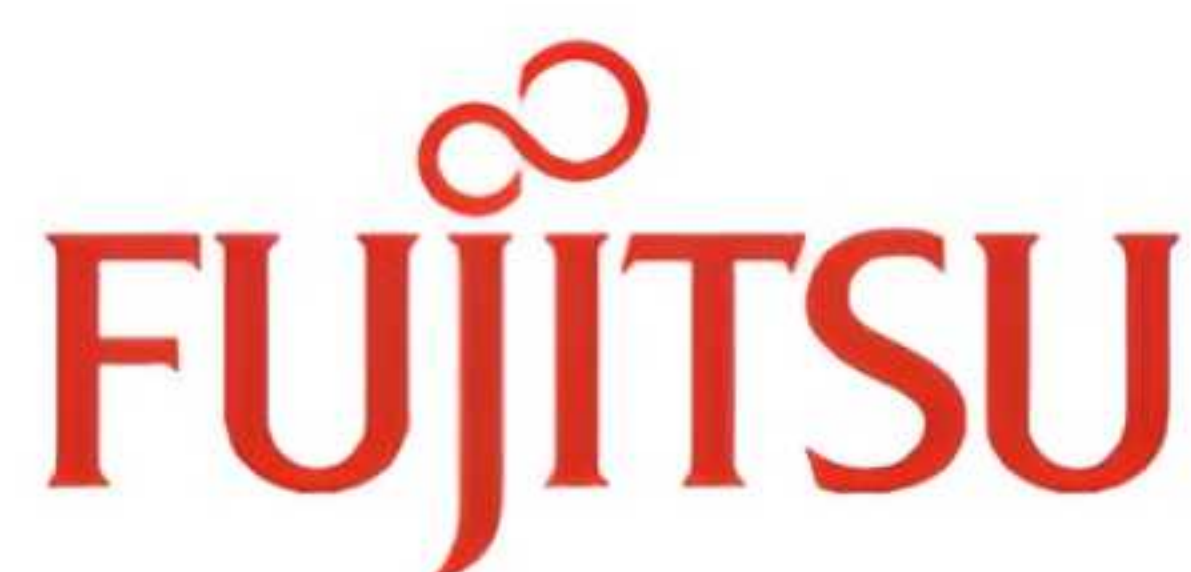
Global Enterprises
actively adopting AI & ML talent.



3x

Faster Career Progression
when combining ML expertise with
cloud & MLOps.

Hiring Partners



The Meritshot Edge

At Meritshot, we don't just teach data science. We prepare you to analyze, predict, and innovate with AI-powered solutions. Our program blends programming, statistics, machine learning, big data, cloud analytics, and MLOps into one seamless journey. You graduate not just job-ready, but future-ready.

1

Beginner-to-Advanced Tracks (Structured Learning Path)

- Start with Python, SQL, and statistics to build a strong foundation.
 - Progress into machine learning, deep learning, and generative AI.
 - End with domain specialization & capstone projects that mirror real industry challenges.
- 👉 A smooth transition from beginner → analyst → data scientist → ML engineer.

2

Hands-On Projects & Case Studies (Practice-Driven Learning)

- Work on real-world datasets in finance, e-commerce, healthcare, and HR.
 - Build churn models, fraud detection systems, recommender engines, and risk prediction tools.
 - Capstone projects deploy models into cloud & production environments.
- 👉 Every project adds a portfolio-ready asset to showcase employers.

3

Placement-First Approach (Career-Ready)

- Access 400+ recruiters and hiring partners across consulting, IT, fintech, and startups.
 - Personalized resume branding, LinkedIn optimization, and mock interviews.
 - Alumni referral network + lifelong career support.
- 👉 A proven track record of learners landing Top roles in DS/ML.

The Meritshot Edge

At Meritshot, we don't just teach data science. We prepare you to analyze, predict, and innovate with AI-powered solutions. Our program blends programming, statistics, machine learning, big data, cloud analytics, and MLOps into one seamless journey. You graduate not just job-ready, but future-ready.

4

Specialized Electives (Stay Future-Proof)

- **AI & Generative AI** → Transformers, LLMs, prompt engineering.
 - **Cloud Data Science** → AWS, GCP, Azure for data pipelines.
 - **Big Data & Analytics** → Spark, Hadoop, NoSQL at enterprise scale.
 - **MLOps & Deployment** → Docker, CI/CD, model monitoring.
- 👉 Choose electives to shape your career in tech, consulting, or leadership tracks.

5

Globally Recognized Certification

- Earn the Meritshot DSML Program Completion Certificate.
 - Showcase projects, capstones, and applied AI/ML skills on LinkedIn.
 - Widely recognized by global recruiters and hiring partners.
- 👉 A credential that signals career readiness and applied expertise.

6

Small Batches & Mentor-Led Guidance

- 1:1 mentorship from data scientists and ML engineers at top companies.
 - Small group classes ensure personalized attention and feedback.
 - Career mentorship to align your projects with your dream roles.
- 👉 Every learner gets tailored growth and career acceleration.

Learn from the Industry's Finest Engineers

Guided by working professionals, not academicians - Mentors who know exactly, what it takes to get into product companies



Chintada Abhilash

7+ years experience

Data Science leader with 7+ years of experience in AI & ML, driving impactful solutions from predictive analytics to automation. Skilled in building scalable models and advanced algorithms, he has led teams to deliver data-driven business outcomes. Abhilash is passionate about turning data into actionable insights and mentoring the next generation of innovators.



Heena Arora

3+ years experience

Data Scientist at PwC with 3+ years of experience in predictive modeling, advanced analytics, and large-scale data solutions. Previously at Amazon, she gained expertise in machine learning and process optimization. Heena specializes in transforming raw data into business insights that drive strategic impact.



Saurabh Daund

5+ years experience

AI & Data Science professional with 5+ years of expertise in NLP, Generative AI, LLMs, and intelligent system design. He has built scalable, AI-driven products that enhance business performance and user experience. Saurabh blends technical depth with practical problem-solving to deliver innovative AI solutions.



Saadh Khan

8+ years experience

With 8+ years in AI & ML, Saadh has led end-to-end projects across industries, from predictive modeling to scalable AI deployment. He brings expertise in advanced analytics and data-informed decision-making. Passionate about innovation, he creates AI solutions that deliver measurable business growth.

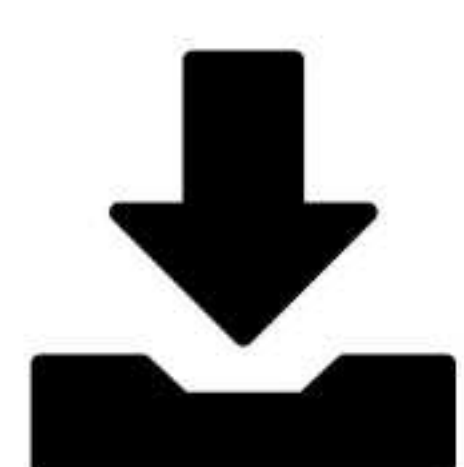
Get Industry-Recognized Certification

Earn dual credentials: Microsoft-accredited certificate and a Meritshot program completion certificate which is globally recognized, employer-trusted, and shareable on LinkedIn



How to Enroll?

Your Next Steps



Download Brochure

Get complete curriculum details and program information



Get in Touch with us

Speak with our experts to explore specialisations, career paths, and program fit



Start Your Journey

Join the next batch and make a promise to transition your career.

Start Your Journey with Meritshot

1. Hassle-Free Registration

Sign up on meritshot.com or connect with our counsellor to begin your journey.

2. Choose Your Track

Pick the batch that suits you: Beginner or Advanced, based on your current skill level.

3. Batch Allotment & Kickstart

Get onboarded into your chosen track with flexible payment options and start learning.

Enroll Now →



Meritshot

**THANK
YOU**

Need more insights?

Our counsellors will guide you on enrollment, specialisations, and career opportunities.

GET IN TOUCH →